AMERICAN ANNALS

OF

The Deaf,

EDITED BY

EDWARD ALLEN FAY,

UNDER THE DIRECTION OF

R. O. JOHNSON, OF INDIANA, F. D. CLARKE, OF MICHIGAN, J. H. JOHNSON, OF ALABAMA, W. K. ARGO, OF COLORADO, AND A. L. E. CROUTER, OF PENNSYLVANIA,

Committee of the Conference of Superintendents and Principals of American Schools for the Deaf.

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BROWN HALL.

AMERICAN ANNALS OF THE DEAF.

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BROWN HALL.

THE NEW SCHOOL BUILDING OF THE MICHIGAN SCHOOL FOR THE DEAF.

IN 1899 the Legislature of Michigan appropriated $75,000 for the purpose of building a new school house for the State School for the Deaf at Flint. In September of that year ground was broken and, owing to the remarkably open winter which followed, work was almost uninterrupted until the opening of school this fall. On the 19th of September, 1900, school was opened in Brown Hall—as handsome, commodious, and complete a school building as the deaf of any State can boast of.

The new building has been named "BROWN HALL" in honor of our loved trustee and treasurer, Gen. Chas. S. Brown, of Flint.

It stands some distance east of the other Institution buildings on Court street at the head of Asylum street.

Those who attended the Convention of Instructors at Flint, in 1895, will remember the wheat field between the Superintendent's cottage and the town, and will perhaps recall being told that the bricks for the old building were made in that field. Brown Hall stands in the middle of

Corridor.
Corridor.
Lady's Office
Gym. Entrance
Gym. Entrance
Class Room
Class Room
Class Room

the old brickyard and commands a splendid view of the beautiful little city of Flint.

Symmetrical and artistic in design, its three stories of Findlay pressed brick, with Portage Entry red sandstone facings, rising above a basement wall of Saginaw rock-faced paving brick, compels the admiration of all.

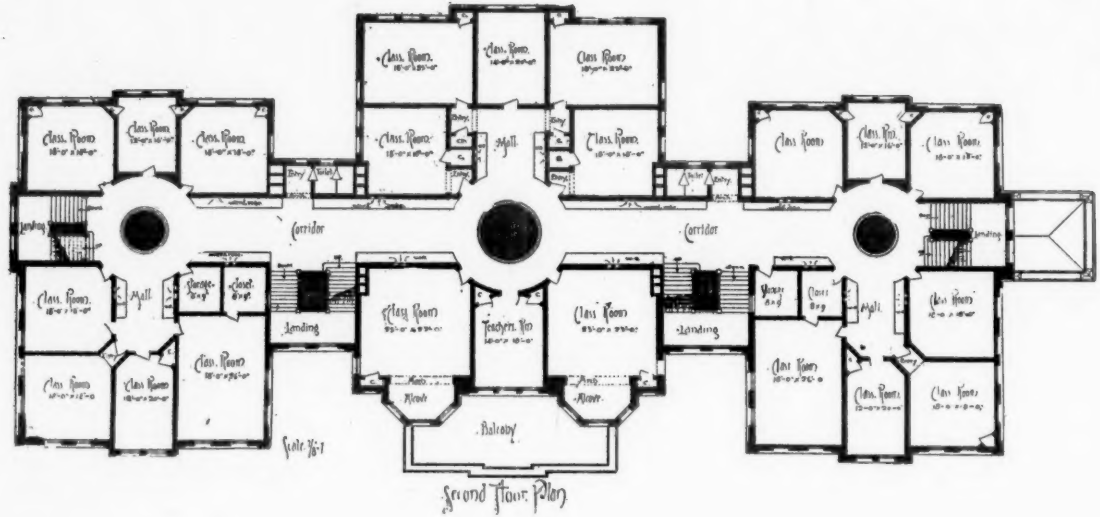
In appearance the structure is massive but not heavy, and ornamental but not fantastic, and is a credit to the State and an ornament to the city.

The ground plan covers 218 feet east and west by 130 feet north and south, and is divided into a main or central building with east and west wings. The front presents a broken or irregular appearance, with the massive porch and entrance flanked by the wings extending well to the front.

In the centre of the north face of the building is the main entrance, approached by a broad walk of artificial stone and a flight of stone steps. It opens into a broad hall paved with marbolythic tile, which is used for all hallways on the ground floor, while the woodwork throughout the building is varnished oak with beech flooring elsewhere. This hall extends south from the front entrance to the library at the south of the central building. This is not a room for storing books, but a well lighted, handsomely finished, commodious room, 52 x 24 feet, such as would delight a student at first sight. It is well stocked with something over 4,200 volumes, carefully selected and arranged by grades.

At the right of the hall next to the entrance is the Superintendent's office, and to the left is the public reception room.

Extending the entire length of the three wings is a broad corridor running east and west with entrances at either end. This corridor intersects the main hall and is paved like it. Between the library and the corridor on the right is the store room for supplies and school books.


Class Room
Class Room
Class Room
Class Room
Hall
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Entry
Entry
Entry
Entry
Corridor
Corridor
Landing
Landing
Hall
Hall
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room

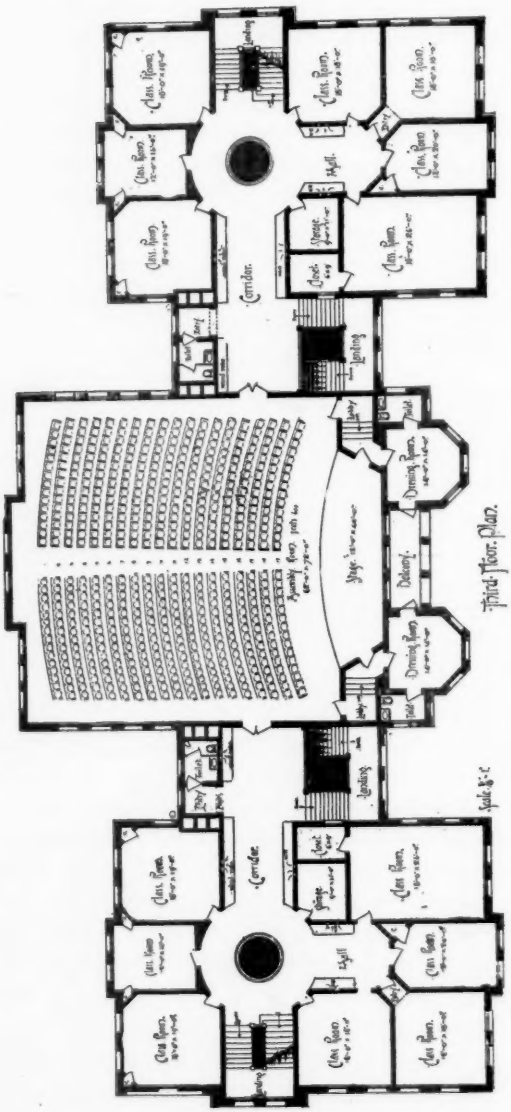
Opening into the library opposite the store room is the apparatus and experiment room. The other rooms on the ground floor, fourteen in number, are schoolrooms for the primary grades; the oral classes being in the east wing and the manual classes in the west.

The arrangement of the rooms on the second floor is similar to that on the first, but the space over the library is made into three school rooms, while the room over the apparatus room is a teacher's lunch room, and that over the reception room is devoted to primary work in art. All other rooms on this floor are used as class rooms.

Immediately over the main entrance and occupying the entire third floor of the central building is the chapel. The acoustic properties of this hall are such that ordinary tones on the platform can be heard all over the hall. Articulation and oral teachers who have been compelled to exhibit their pupils in chapels in which an accomplished public speaker cannot be understood more than twenty feet from the platform will appreciate this. And all who have suffered from headache caused by striving to read spelling in the light so often found in chapels will rejoice with us in the fact that from each one of the 800 seats, covering a hall 52 by 90 with a gallery on three sides, the fingers of a rapid speller may be followed with ease. The stage is well arranged, and when the drop curtain and flies are in place we shall have an admirable place for gatherings of all kinds.

The third floor of the east wing is a handsome hall 50 x 70 feet, with vaulted roof, well lighted and perfectly ventilated. We hope soon to have this fitted with all the paraphernalia of a modern gymnasium, but at present the exercises are confined to calisthenics and dumb-bell, wand, and club drill.

In the basement the west wing is for boys and the east wing for girls. Both wings are furnished alike, and supplied with lavatories and closets on the south side of the


Third Floor Plan.
Corridor
Hall
Landing
Assembly Room
Stage
Dining Room
Dining Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room

THIRD FLOOR.

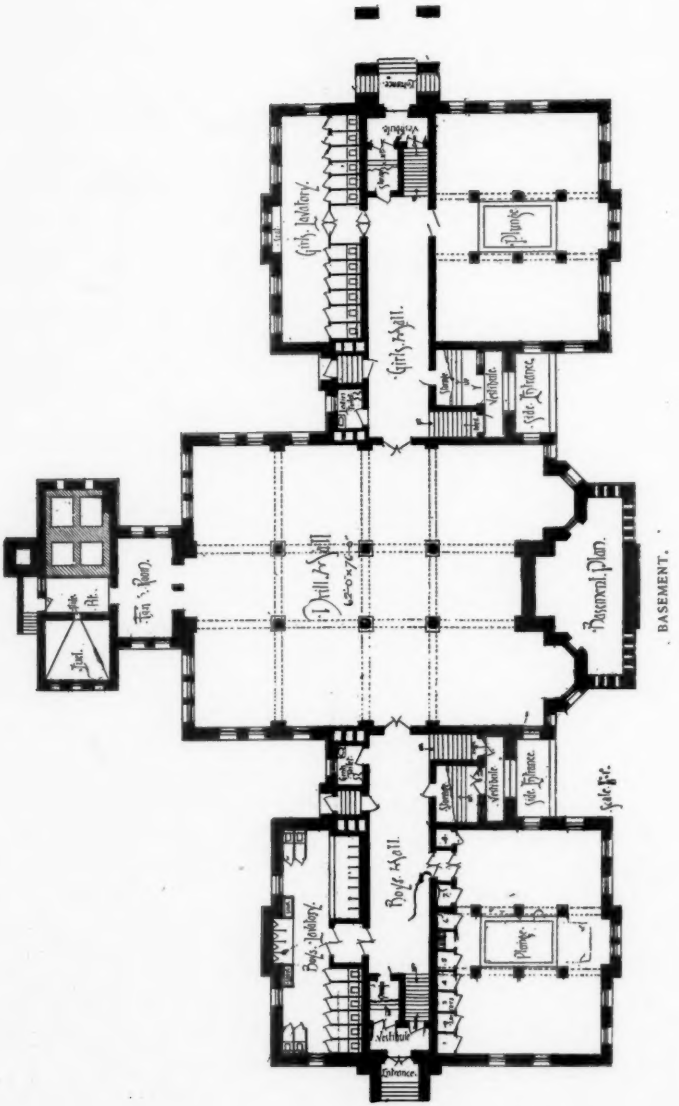
hall, and with large plunge baths or swimming pools with dressing rooms for each on the north. Between the two wings is a drill or exercise room 52 x 90 feet, for use as a play room in bad weather.

In all there are forty-three class rooms in Brown Hall, and each one is planned so as to get the benefit of all the sunlight possible. There is not a dark or gloomy schoolroom in the building. Most of the rooms have closets and all are fitted with the best quality of Pennsylvania slate blackboards.

Adjoining the basement on the south or rear of the building is the boiler house containing the apparatus for heating and ventilating the building. This is modern and up to date in every particular, and it is claimed that under its operation the temperature in the building will never vary more than four degrees, and that the air in each schoolroom will be entirely changed and replaced with fresh air every ten minutes without opening a window or a door. This result is obtained automatically through the use of thermostats in each room.

Pure cold air from the outside passes through two separate coils of steam-heated pipe, one of which contains four miles of pipe. The hot air is taken up by a large fan and forced through ducts to every room in the building. The ducts are in two sections, and while the hot air is forced through the upper one, the cold air from the outside finds its way to the different rooms through the lower section. The ducts are controlled in the rooms by means of a Johnson heat regulator, operated by compressed air. A battery of boilers furnishes steam to heat the coils of pipe, and also to run a 25 horse-power Sturtevant engine which operates the fan. In hot weather this fan will be used to force cool air into the rooms for ventilating purposes.

The building is supplied with artificial light by 495 incandescent electric lamps of 16 candle power each.


Girls' Lavatory.
Girls' Hall.
Vestibule
Side Entrance
Piano
Boys' Lavatory.
Boys' Hall.
Vestibule
Entrance
Side Ent.
Fuel
Ash Pit
Fire Place
Basement Plan.
BASEMENT.

Two stand-pipes in the building, with hose attached on each floor, and three hydrants on the ground, are considered ample fire protection.

There are five outside doors on the first floor and seven in the basement. The second and third floors are reached by four double stairways, making it possible to empty the building very quickly, even without using the exterior fire-escapes which are provided.

The plans of the building were drawn by F. W. Hollister, of Saginaw, and are worthy of his reputation as a capable architect. Geo. Rickman & Sons, of Kalamazoo, had the building contract; B. F. Sturtevant, of Boston, Mass., put in the heating and ventilating plant; Geo. W. Hubbard, of Flint, did the plumbing, and the electric fixtures were furnished by Barton & Co., of Detroit.

All the furniture used in the building is the work of the boys in our cabinet shop, except the chairs in the chapel. These are for temporary use, however, and will be replaced by opera chairs to be made in our shop. The building and its contents are a credit to the State, and the entire school, pupils and teachers alike, feel proud of it and are making extra efforts to do even better work than in the past.

THOS. P. CLARKE,
Instructor in the Michigan School for the Deaf, Flint, Mich.

THE EDUCATIONAL VALUE OF PICTURES.—I.

Most knowledge is acquired through sight. The deaf are almost entirely dependent upon this medium, and in the transference of ideas to their mind those methods should be employed which leave the strongest and most lasting visual impressions.

The direct study of objects is the most desirable, but this is impossible except in a very limited way. We cannot bring the pyramids into the schoolroom, neither can we visit the Alps. We cannot explore the frozen north nor penetrate the scorching tropics. We cannot review the battles of Napoleon or have him pose for our study. Even if this were possible we could see them but once and only for a moment. Pictures representing these scenes can be studied whenever we please, wherever we please, and as long and as often as we choose.

It is but a few years since pictures would not be tolerated in the schoolroom, as they attracted the attention of the pupil from the dry and incomprehensible language of the text. The first pictures used were very crude indeed. I remember an old book in which the picture of a bird in one place represented an eagle, in another place a robin. The same picture was called Noah's dove on one page, and an owl on another page. Since then the methods of making pictures have improved and, like books, they have become so plentiful and so cheap that they are in use everywhere.

In selecting pictures for the schoolroom great care should be taken to secure those pictures most suitable for the class. A small child does not see a picture as we do. The education of the eye requires considerable well-directed practice.

We appreciate a painting chiefly by the associations it suggests. The source of a child's associations is very

limited, and, until this store is increased by years of experience and training, it cannot see the picture and feel its influence as we do. At first the child can only distinguish light from darkness. It takes considerable practice to produce a brain centre so delicate as to discern the minute distinction in all the shades and colors. Often children of school age do not entirely grasp the relation between object and picture, and it requires some practice before the child gets the idea of perspective portrayed in an ordinary picture.

In the beginning use outline pictures. First study the object and then the outline, and have the pupils reproduce that outline in the fewest lines possible. They soon learn to observe the outline of everything, noticing the differences and resemblances in the forms of various objects. This is the first and most important lesson in observation. An artist can take the outline of one object, such as a pear, add a couple of lines and have a mouse, add a couple more and have a cat, change a couple and have a boy.

The next step is to have them fill in some of the detail. This requires more minute observation and cannot be indulged in freely until they are older. If I remember, it was Agassiz who refused a painting of a partridge, the gift of a most eminent artist, because it had one too many rows of scales around its legs. He noticed this at the first glance; such minute observation is the result of the most diligent practice.

The many ingenious methods employed in the use of scrap pictures are of great value, not only in imparting knowledge, but in developing artistic tastes.

Such pictures are interesting in the study of current topics in the more advanced grades. In the primary grades as the study of objects is progressing the study of pictures should begin, and when the objects are exhausted pictures can supply their place. Scrap pictures taken

from catalogues and magazines are much more attractive if placed on a colored background.

Assorted copies, such as the Perry pictures, are valuable because you have the opportunity of selecting copies of the finest works of art. For the smaller grades pictures should be chosen with one or two central figures and little or no detail. Pictures should be chosen of objects with which the pupils are familiar and in which they are particularly interested. As the power of observation strengthens and the store of the associations increases the pictures may become more complicated. It requires considerable development fully to appreciate a complex landscape or a classical masterpiece.

Take a piece of large cardboard, such as photographers use, cut a hole in it a little smaller than the picture, take another cardboard of the same size, place it back of the first and glue them together on three sides leaving the fourth open. Pictures can be inserted or removed through the open end. A few such frames of different sizes and colors can be used to exhibit many pictures.

In selecting pictures for the school have the pupils write stories about them. Do not ask questions or give hints unless it is to relieve the temporary embarrassment of some pupil. Let the children write just what they think and you will be able to judge the sort of pictures they will derive the most good from. Find out what they like best but do not always give that to them. If a boy has too much of the pirate nature, as is usually the case, avoid all such pictures and give him something he really appreciates of a more refining nature.

One of the most common uses of pictures is to illustrate language. A most difficult and confusing page of English may be made clear and interesting by a few illustrations. It not only saves the child the labor and discouragement of wading through pages of dry language, but it leaves strong and lasting impressions. We all re-

member the pictures in our geographies long after we have forgotten the text. If it is possible, when choosing books for the deaf, have them well illustrated.

By a little patient persistence the class can soon be taught to illustrate language. Take some topic, such as a story, a fable, or a newspaper article, write it on the board, and after it has been read and explained have the class illustrate it. After a fable is illustrated I often require an interpretation, that is, have them draw pictures, replacing the animals by people. Ask for stories of historical and geographical subjects. Occasionally require an illustration of the life of Franklin, the Boston tea party, etc., in examinations. Nobody can comprehend history who has not sufficient imagination, not only to see the people in their daily life, but to live with them, be one of them, see as they see, feel as they feel. It is necessary to get into the boots first of one partisan, then of another partisan, and at last get back into your own shoes and judge them impartially. A weak imagination can never accomplish this ; an untrained imagination will be lost in partisanship. This method reveals to the teacher many peculiar and often erroneous ideas of the pupils. It develops strong imagination, requires a perfect understanding, demands clear thinking and reveals all errors.

It will take but a few moments to show the class the artistic designs and decorations of some costly book, which is a true work of art. They will soon grasp the relation between text and designs, and will want to decorate their own work. I find it a good plan to preserve the best writings of each pupil and have them copied on fancy paper, decorated and illustrated and put into book form. It encourages the class to do their best. Each pupil must have at least one production in the book ; they will strive to have that a good one.

Pictures can be used to communicate ideas the same as language. A story can often be told as neatly and effect-

ively by a series of pictures as by words. Take a magazine containing such pictures; explain them as carefully as you would a written story. When the class has completely grasped the idea, have them draw a story in two or three pictures. Occasionally ask such questions in examinations and the results will be surprising. At first the pupils may complain of the fact that they cannot draw, but if you patiently persist you will find that with a little care the poorest will be able to do very good work. It is the ideas that are wanted more than accurate execution. The pupils can exchange these pictures and construct stories about them for a language drill. This will develop observation, imagination, and thought. We are inclined to let necessity develop observation with the deaf. Anything that will aid them in the more accurate use of the eye and quicken good judgment is of more value to the deaf than to the hearing. The eye should be systematically educated but never abused.

Cartoons are imaginative pictures in which some of the most striking characteristics are greatly enlarged. Many of our social and political ideas and prejudices are unconsciously derived from cartoons. Mr. Tweed said, "Few people will read what is written about me, fewer will understand, but everybody can read and understand these pictures."

It is a pupil's favorite employment to draw a cartoon of his teacher. This tendency can be turned into more profitable channels. Have them illustrate their journals and make cartoons of historical subjects. No improper pictures will be indulged in if the teacher shows the slightest disapproval at the first attempt. In fact, I have had only one faint attempt to indulge in personality. Care should be taken to avoid the hideous and vulgar cartoons found in many current papers. Such pictures will soon pass away; but clean imaginative cartoons will always be a weapon for good or evil.

Wall pictures have received considerable attention from

educators lately. They are of more value in developing strong characters and æsthetic tastes than ordinary pictures because they are always in sight. Every time a child glances consciously about the room the wall picture leaves a mental impression. If this is repeated several times a day for a few months, that picture becomes so fixed in the mind as to produce certain qualities of character, good or bad.

Place a fine picture of Napoleon in the room of the average boy when he is of the proper age; leave it there for a couple of years, and he will become a warrior if his environments permit. At least, he will always cherish a love for battle, and when hostilities break out, exhibit a strong war spirit. Some more refining picture might produce an opposite effect. A wall picture is a silent tutor, the child an unconscious disciple.

Like books, pictures must be suitable to the class. No teacher would think of giving a small child a volume of Shakspere, but children are often given pictures as incomprehensible. If you are in doubt as to what pictures are best for the class, test them. Have them write stories about them, get their ideas of the pictures. Give them those from which they receive the most good. Every picture should be used to accomplish some object. When this object is accomplished replace it by another. Never allow a poor picture in the room; nothing but the best. A good copy is much preferable to a cheap original. Be very careful about the arrangement of the pictures and the decoration of the room. Good taste and refined sentiments can be instilled into the most boorish. If you wish to make the class more ambitious, adorn the walls with the portraits of eminent deaf people who have become successful in some line in which they are interested. Pictures of hearing people offer little encouragement to the deaf. No deaf boy can hope to become a George Washington or a Shakspere. Few can thoroughly appreciate Tennyson or Longfellow. These pic-

tures may interest them and create an admiration for such characters, but pictures of distinguished deaf men would be ideals constantly before them. Whenever portraits of hearing people are exhibited it should be of those who are successful in some line particularly interesting to the deaf. It is very sad to see a deaf boy or girl filled with ambition to become famous in some line in which they can never succeed except in the most limited way. I have seen deaf boys ambitious to become eminent lawyers through the unconscious influence of friends and teachers in directing their thoughts. An exceptionally gifted deaf person might become successful in a limited way in lines that are not open to the great mass. This great mass should be directed to the pursuits most beneficial to them. Let our pictures be chosen with this in view. If we wish to create a college spirit adorn the walls with pictures of the college and its professors, of the students at their work and at their play. If we wish to instill a love for manual labor use pictures representing peasant life such as Millet's and others.

In developing artistic tastes bring out all the sentiments and imagination portrayed in a painting. Pupils should know how to search for qualities that make a good picture. Tell stories about the artists and show their portraits where possible. An interest in the artist will increase their interest in the painting. Remember a poor selection may make bad men and women, and a careless arrangement will create boorish tastes and habits. Pictures and flowers take the place of music in producing a softening effect upon the character.

For lecture purposes the stereopticon and moving pictures are invaluable. The deaf can see the pictures and the signing at the same time. Such lectures appeal directly to the eye and are of the greatest educational value.

ALVIN E. POPE,
Instructor in the Nebraska School, Omaha, Nebraska.

[TO BE CONTINUED.]

A STRANGE RESTORATION OF HEARING AND SPEECH.

An accident occurred on the 9th of June last to a deaf man living in Pittsburgh which, though distressing in some of its aspects, was, on the whole, singularly beneficial. Mr. F. W. Temon, while mending the roof of his house, fell a distance of eighteen or twenty feet, striking the ground with his head and right shoulder. He was rendered unconscious by the blow, and when picked up by his friends was bleeding profusely at the nose and mouth. A physician was hastily summoned and found that his shoulder was dislocated, and that he had suffered painful though not serious injuries on his head and body. He was removed to a hospital in Pittsburgh, where careful examination disclosed the fact that the blow had in some way restored hearing to his right ear, but had caused blindness to his left eye, which had hitherto been perfectly sound.

Mr. Temon was sixty-five years old at the time this accident happened. He lost his hearing when ten years of age from small-pox, and his speech gradually became unintelligible and disagreeable to his friends, and by the time he was thirteen years old he ceased to speak entirely, and for a period of nearly fifty-two years was as unable to utter intelligible words as a congenitally deaf person who had not been trained to use his voice. He retained his ability to read and write and was sent to a country school near his home for several winters, but did not enter an institution for the deaf. As he was fond of reading he continued to educate himself by spending his leisure time in reading. At the age of nineteen years he removed with his mother to Allegheny where he learned the trade of an upholsterer, and has been known there and in Pitts-

burg for the past forty years as an industrious and competent workman. He at no time made use of his infirmity to gain sympathy or work, but led rather a secluded life, not being able to enjoy the companionship of other men and finding resources in himself to prevent unhappiness or discontent. The narrative to this point has here and there parallels which may be found recorded in medical treatises, but the further history of the case is more remarkable, and will challenge the credulity of most of my readers, as it did my own at first. Mr. Temon was not only restored to hearing but also restored to the perfect use of his speech, with modulation as natural as that possessed by the average speaker.

It is perhaps useless to try to account for the many phenomena involved in this case, yet a possible explanation may be found in the theory that they are due to aphasia. This seems all the more plausible when we recall the circumstance that he gradually lost the ability to speak. Children who lose their hearing after they are eight years of age generally retain the power of speech, losing of course perfect modulation of the voice. Young Temon's speech soon became so indistinct that he habitually resorted to writing in conversing with strangers, and in three years abandoned oral conversation even in his own home. In one of the phases of aphasia the patient loses command over the nerves that control speech, while being able to understand all that is said to him; he possesses all his faculties of mind, but the nerve centre of speech has been disturbed, or the nerve track that should convey speech to the vocal organs has become impaired, and he is helpless to express his thoughts, though they may be as clear as ever. Obviously aphasia of this kind is more serious to a deaf person than to one who can hear, for not only is the power of speech gone, but with it has gone the power to understand, because the only avenue by which speech can reach the brain had been

already closed. This derangement of the brain ranges from absolute incapacity to use spoken language to the loss of only a few words. I knew a man once who could not say *butter* and avoided all conversation that would require him to use the word. It seems possible that the blow Mr. Temon received in falling restored connection between the auditory nerve and the nerve centre of the brain, and the brain resumed at once the function that had long been interrupted, and the vocal cords in turn at once responded to the command. Naturally one would suppose that it would have been necessary for Mr. Temon to learn to talk, just as the man in the Scriptures who was restored to sight, seeing men as trees walking, had to learn to see. He found his vocal organs somewhat inflexible at first, but within a few days they seemed to have regained their normal flexibility.

Another singular circumstance remains to be told. A few days after recovering hearing in his left ear he noticed that he could hear loud noises in his right ear. By slow degrees the hearing improved, but not sufficiently to be of any service to him, till one day while attending a Sunday-school picnic in the woods, sitting a distance from some singers who were entertaining the company and exerting himself to the utmost to catch the music, he felt something in his ear give way, as he expressed it, and hearing was immediately restored. It may be of interest to add that Mr. Temon, while not much of a singer, remembers some of the hymns he used to sing in his boyhood, and can sing them fairly well. It is needless to say that a vast volume of Sunday-school and church music has accumulated during the fifty-five years of his deafness that he knows nothing of.

Many sounds were new to him. The first one that he heard which he was not able to identify was a lawn-mower; and calling to mind the one that is used to rouse me at five o'clock in the morning, I wondered if it did not awaken

a desire to return to his days of silence. The chimes in a church steeple near his home are a source of much wonder as well as pleasure.

A word should be addressed to those who find it hard to believe the genuineness of this strange restoration both of hearing and of speech. Whether the theory above advanced to account for them be correct or not, the facts herein set forth are fully believed by all of Mr. Temon's friends and acquaintances, many of whom are men of high standing in the community. The strongest reason for giving them full credence is the character of the man. His life is and always has been above reproach. He did not trade on his infirmity, nor did he seek sympathy. In disposition he was amiable and friendly, and was not at all the person who would voluntarily retire from the world. He was not married, but lived with his mother during her lifetime, and afterwards kept up a household of his own, and those who lived with him for years never suspected him of deceit. In fact, as far as I have been able to ascertain, there was entire absence of any motive for him to simulate deafness and deliberately refrain from using his voice for fifty-three years.

WILLIAM N. BURT,
Principal of the Western Pennsylvania Institution,
Edgewood Park, Pennsylvania.

THE CORRECTION OF ERRORS IN LANGUAGE WORK.

One of the most perplexing problems that confront the teacher of the deaf in the schoolroom is that of getting a value, proportionate to the time consumed, from the process of looking over the pupils' written exercises and pointing out and explaining the errors. While there is decidedly more benefit to the pupil, in the way of language acquisition, in constructing new sentences than in endeavoring to patch up those already formed, it is necessary, in order to retain his interest, that he should be made to feel that his work will be carefully scrutinized and every mistake noted by his teacher. Let the pupil once get the idea into his head that his teacher is not thoroughly conscientious in marking errors in these written exercises and there will be a great falling off in his interest and effort.

The usual methods of correcting errors are, as we all know by weary experience, about as follows:

1st. To mark each paper or slate individually, directly after it is written, while the pupil stands at the teacher's elbow.

2d. To correct the papers out of school, and return them to the pupils next day.

3d. To glance over the papers, single out characteristic errors on different principles, place them on the blackboard, and explain them to the class as a whole.

There are a number of other plans, such as allowing the pupils to exchange papers and mark errors in one another's work, but like those above mentioned, they are generally more or less unsatisfactory.

None of these plans are ideal—each has serious drawbacks. By the first one, if the work is done thoroughly,

a great deal of time is usually consumed; if done hastily or carelessly, it might as well not be done at all. By the second the pupil loses interest in the exercise; like yesterday's daily paper it is out of date. It is profitless to hammer cold iron; I have seen pupils stuff their papers, over which the teacher had spent both labor and pains, into the stove without so much as glancing at the carefully made corrections. The objection is urged against the third plan that incorrect forms should never be placed before the children; they see too many such anyhow, without the teacher taking the trouble to write out more for their benefit.

Besides the plans outlined above there is the California plan of numbering principles, a simple key being provided by means of which the pupil can tell the character of the error to which it is desired to call his attention. From an article printed in the *Annals** two or three years ago, describing its use in the California school, it appears to be successful in its workings and to be regarded with favor by the teachers there. The weak point, it appears to me, is that it presupposes that the pupil is capable of correcting his own errors. He could do so with those caused by carelessness, but would surely strike frequent snags in dealing with other classes of errors, which are after all the ones with which we are chiefly concerned.

With these diverse methods before us which shall we elect to use? My own opinion is that, while the first one given is generally preferable, still the best method will vary with different classes and in different stages of the course. In the younger classes, where the exercises are short and the language not so involved, the teacher would find it more advantageous to correct the papers individually. If the teacher has his class under good control,

* *Annals*, vol. xliv, pp. 238–242. See also the "Correction Chart" used in the Illinois Institution, *Annals*, xliii, 92, and that devised by Mr. Edward P. Clarke, *Annals*, xlv, 111.

and can arrange a sort of review of the preceding day's work, he may venture to make occasional use of the method of correcting out of school, especially with advanced classes. In the case of classes whose pupils are waging a losing fight with English, and whose exercises contain errors in every sentence, duplicates of which can be found on the slate of nearly every pupil in the room, the method of placing characteristic errors on the board and explaining them to the entire class can be employed to advantage. The correct form should be written first, followed by the sentence it is desired to submit to the class for correction, for it is undoubtedly true that first impressions are more lasting.

It has been said that the best way to solve the problem of errors in our work is not to allow the pupil to make them,—a solution that, however excellent in theory, is difficult to arrive at in practice. Errors have to be reckoned with at every turn, even in the work of the brighter pupils, while we all know how that of the other extreme bristles with them. But it is true in pedagogy no less than in medics that "an ounce of prevention is worth a pound of cure," and that careful, systematic work in grounding the pupil in the principle upon which he is expected to write will minimize the number of errors to be contended with.

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THE USE OF THE MICROPHONOGRAPH IN THE EDUCATION OF THE DEAF.—II.*

III.—Examination of the Method as set forth by the Inventors of the Microphonograph.

1. Special effect of the microphonograph on the organ of hearing. (*a*) Influence of electricity. (*b*) Peculiar form of the sound waves. (*c*) Intensity of the sounds reproduced. (*d*) Direct communication of the vibratory motion. (*e*) Clearness of the sounds repeated by the instrument. 2. Concerning one particular case of improvement in hearing. 3. Can the microphonograph make the deaf hear? The manner in which the hearing of speech can be restored to certain of the partially deaf. 4. Can the microphonograph teach speech to the deaf, without the aid of sight and of touch? 5. The acquisition of articulate speech, in normal cases of hearing, is the result of a comparison which the child makes between his own vocal utterances and those which he hears from others. 6. The methods actually in use to teach speech in schools for the deaf do not depend exclusively upon the employment of the visual sense. The hand is the real ear of the totally deaf.

Such are the results established after seven weeks of experimenting. In short, the microphonograph showed itself decidedly inferior to the voice alone, and in that very fact, from a practical point of view, lies the salient feature of the result of all our experiments.

It follows, necessarily, that since the apparatus fails in all cases where the ordinary voice has been found to be useless, the question of auricular teaching remains in exactly the same position, and is surrounded by the same difficulties after, as before, the use of the microphonograph.

It is only as a *repeater* and as an aid to the natural voice that the "automatic talker" could be used by the special teacher in those comparatively rare cases where, up to this time, we have practiced acoustic exercises; that is, when the child has preserved a sufficient amount of hearing.

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* Continued from the *Annals* for November, 1900, page 503.

We do not believe, therefore, that we ought to uphold the opinion of those eminent men who propose to "demute" our pupils by the sole means of the microphonograph.

Besides the fact that our present experiments have proved beyond a doubt (as we have just said) the marked inferiority of the new instrument as compared with natural speech, there exist, for the support of our argument, numerous proofs which we shall endeavor to set forth very briefly.

1. *Special effect of the microphonograph on the organ of hearing.*—In order to justify the claim that the microphonograph can make the deafest subjects hear, the following reasons are given:

(*a*) Electricity acts in an efficacious manner upon the sound to be transmitted, and upon the organ of hearing.

(*b*) The microphonograph generates sounds of a special nature more easily distinguished by the ear of the deaf.

(*c*) The amplitude of vibration may be increased and regulated at will in such a way as to make the sound thus reinforced perceived by even those subjects who are almost totally deprived of hearing.

(*d*) The contact of the telephonic ear-tube with the ear favors the transmission of sound vibrations.

(*e*) The apparatus reproduces speech with more clearness than do other phonographs.

We will examine successively each one of the points enumerated above.

(*a*) *Influence of electricity.**—It seems obvious that

* "Sounds transmitted by the microphonograph undergo an important change in regard to their properties, and are more accessible to feeble powers of hearing, because they have certain of the qualities of *noises*."—(G. F. Jaubert, in *Revue Encyclopédique Larousse*, June 27, 1896.)

"The ear undergoes here a certain electrical excitement, the best thing, according to physiological theories, to act upon the hearing apparatus of the deaf."—(A. Boyer, in *Tribune Médicale*, December 29, 1897.)

electricity has no effect, of itself, except in transmitting sound vibrations. Its influence, which is *nil* on the organ of hearing, stops at the vibrating membrane of the telephonic ear-piece. The microphonograph, like the voice and the different acoustic tubes, gives to the ear of the deaf only a purely mechanical excitement.

(*b*) *Peculiar form of the sound waves.*—It is important to know, precisely, whether this excitement, caused either by electricity or something else, takes a peculiar form.*

Sound, as we know, has three fundamental qualities—pitch, timbre, and intensity.

The modification of the sound phenomenon of which we are speaking being declared independent of intensity† depends only upon the musical pitch or the timbre.

On the other hand, there can be no question of pitch, as the apparatus must repeat and repeat again the sounds inscribed without modifying the tone.

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* "In fact, the kind of sound and noise, and the *particular wave vibration* generated by the microphonograph (Dussaud) even in its earliest workings (see our first communications to the Academy of Medicine), *excite and awaken* the perception and sense of hearing in the subjects afflicted by deafness who have learned to speak, but who have never before perceived and consequently have never heard any sound or noise whatever. For them it is an unexpected revelation of a new world, an unknown sensation—a revelation which they manifest by signs of satisfaction and sometimes of unbounded joy."—Dr. Laborde, in *Tribune Médicale*, January 26, 1898.)

† "Entrance to a nerve or a perceptive centre depends *not only upon the intensity*, but also upon the *nature* of the excitant. For the same nerve, or for the same nerve centres, the form of pain, that is the quality of the pain, varies according to whether the excitement of the nerve has been occasioned by mechanical pressure, burning, or corrosion by acid. From the fact that the human voice and even ordinary noises, such as those of the hammer and anvil, do not affect the deaf-mute, one must not conclude that it is impossible to make him hear sound waves generated under different conditions. That is the reason why Mr. Dussaud wished to make an instrument which would produce *peculiar sounds* capable of an almost infinite amplitude. That is the secret of his success."—Olivier, in *Revue Générale des Sciences pures et appliquées*, December 30, 1897.—(An account of a lecture given by Dr. Laborde.)

There remains the *timbre*. We willingly admit that the microphonograph gives to the sounds which it reproduces a very special quality. But this is precisely its greatest drawback, and one which sometimes prevents a good comprehension of the registered words and phrases.

As the vowels and the sounds of speech in general have certain determined and characteristic timbres, although these are not yet defined, it is essential that they should be reproduced with the greatest exactness. That one can vary the intensity does not improve matters; but it is important to respect the timbre, even in its minutest nuances if possible. For this reason every modification risks being called an alteration. Note, in addition, that the change of sound caused by the microphonograph is produced entirely at random, without its being possible at the actual moment to determine the acoustic nature of it (we are not speaking of the causes), or to regulate the details, or to manage the evolution of it. The hoped-for improvements should consist in lessening this unfortunate modification in order to get an exact and correct reproduction. In what way, moreover, have they observed the *peculiar* waves which the microphonograph generates? What is exactly the form of such a special undulation? And how do they explain, *according to this form*, the beneficial effect which it is supposed to have on the organ of hearing?*

* In order to define the *peculiar nature* of the sounds of the microphonograph, it is affirmed that they have certain of the characteristics of noises. The explanation is very vague. That the vibratory motions give rise to noise is not enough to cause that the ear of the partially deaf should perceive and *distinguish* between them easily. Most of the sounds which are easily heard by the deaf owe this property either to their great intensity as compared with that of ordinary sounds, or to a sudden displacement of air, or to a decided vibration of surrounding solid bodies, such as floors, etc., or else to the fact that the ear in its conformation shows some *purely individual* peculiarity.

The only general characteristic of noise is the absence or the extreme length of the period of the generating wave, and that cannot constitute a quality favorable to perception or differentiation. In this vast domain

(*c*) *Intensity of the sounds reproduced.**—In regard to the great intensity of the sounds reproduced, we must remark that the apparatus speaks less well in proportion as it speaks more loudly.

As far as our experiments show, the microphonograph does not furnish an intensity very superior to that which can be obtained by the voice speaking loudly *very close to the ear*. On the other hand, the pronunciation is made noticeably artificial, although much less so than in the old instrument,† which obtained great intensity.

This shows us once more that *clearness* and *reinforcement* of sound constitute two conditions hard to unite. It is not to be doubted that in our acoustic exercises the greatest importance should be accorded to the first of these two factors, even should it be detrimental to the second.

(*d*) *Direct communication of the vibratory motion.*‡—

of vibratory motions, slow or irregular, there must exist noises of every form, of every nature, of every composition, strong or soft, deep or shrill, in certain of their elements, which are consequently very unequally easy or difficult to perceive. What are exactly the qualities of form and of composition by which the "sound-noises" of the microphonograph are distinguished? And then, finally, it is a long distance from the mere brute perception of a sort of shock or series of shocks, in form like a vibratory motion, recognized by the cheek, the hand, or the external ear, to the exact appreciation of the very fine and numerous shades of timbre of which human speech is composed.

* "The microphonograph, the first microscope of sound for faint noises, the first telescope for poor ears."—(Dr. Laborde, in *Tribune Médicale*, December 30, 1896.) "We possess a perfected microphonograph which gives results of the greatest interest. These can be easily proved, and have the following principal advantages over the phonograph, in reference to the sounds generated: 1st. They are considerably reinforced. 2d. They have more clearness and but little more nasality."—E. Drouot, in *Nature*, December 25, 1897, according to Dr. Laborde.

† The microphonograph was first introduced before the body of teachers of the National Institution for Deaf-Mutes at Paris towards the close of the year 1897.

‡ "A sort of mechanical vibration is obtained by contact with the wood of the telephone which touches the ear."—(G. E. J., in *Revue Encyclopédique*, June 27, 1896.)

The communication, by contact, of the sound vibrations does not seem to help the perception of vocal qualities, since the children who have preserved a fair amount of hearing understand the voice alone better than the microphonograph. As to the children less gifted with hearing, they perceive in this way the vibratory shock, but they remain incapable of *distinguishing*, by this special method, the different phonetic elements.

(*e*) *Clearness of the sounds repeated by the instrument* (*see note* page* 28).—Is it absolutely certain that the sounds of the microphonograph are more clear than those of the phonograph used alone, and that they have little or no more nasality? On the first point, if we are to trust the judgment of our pupils, the preference seems to be for the ordinary phonograph. It must be said, however, that our experiments on this point were not very conclusive on account of the small number of comparative trials.

2. *Concerning one particular case of improvement in hearing.*—In examining closely, although still too rapidly, the effect of the microphonograph on the organ of hearing, we have observed nothing at all of this new quality, this peculiar* and mysterious influence which some learned theoricians seem to have attributed to it. How can we explain, under such circumstances, the results of experiments made outside of this school?

You certainly know the case of the deaf-mute, aged forty years, whom the microphonograph suddenly introduced, as if by magic, and at the first attempts, into the wonderful world of noises and sounds. You have seen him, no doubt, beating time while the instrument played for him our national hymn. If one is really in the presence of a totally deaf subject (a mistake is always possible in such a case), it is evident that the person in question can perceive (through the telephonic ear-trumpet) nothing but

* Read the interesting article of Dr. Ladreit de Lacharrière in *Annales françaises des Sourds-Muets*, June, 1898 [translated in the *Annals*, xliv, 28–32].

the variations of the musical rhythm, that is, in the last analysis, the duration and the relative intensity of the different notes sung or played, and the successive interruptions in the vibratory motion. All our pupils are able to appreciate sound under this particular form. The hand of the child applied to the larynx or to a sonorous instrument amply suffices to procure such sensations. Is this, then, what they call hearing? Hearing, in reference to speech, means perceiving the differences of *tone*, or if you will, the differences in the vibrating *form*, and not great variations of force and of duration.

Before drawing an argument from the case mentioned above, it seems essential to succeed in making the subject distinguish from one another the different phonetic elements, vowels or consonants. From a thoeretical as well as from a practical point of view, it is the sole infallible test.

3. *Can the microphonograph make the deaf hear?* The manner in which the hearing of speech may be restored to certain of the partially deaf.*—We are not unaware that a certain number of the partially deaf may be enabled to recognize through the ear, after persevering acoustic exercises, the delicate tones which constitute the elements of speech, as well as the words and phrases whose meaning is familiar to them; and, contrary to the opinion expressed by men whose good faith we do not doubt,† we do practice this special

* "We are about to apply the working of the instrument to a subject whose hearing, after having been completely asleep for nearly 40 years, has been and can be suddenly awakened."—Dr. Laborde, in *Tribune Médicale*, January 26, 1898.

"And as Dr. Gellé, the learned otologist of the Salpêtrière, has so clearly set forth, *there is really no ear* the function of which it is impossible to awaken by an exercise properly measured."—*La guérison des sourds et des sourds-muets*, in *Rappel*, December 2, 1897.

† "Up to the present time, and because of the lack of appropriate means, the use of the organ of hearing has been neglected, and it has thus been left to its natural imperfect function"—*Tribune Médicale*, January 26, 1898.

teaching in our school * with the children who seem to us to have preserved a sufficient amount of hearing. But in spite of the numerous successes obtained in this way, we are still far from believing that it is possible to cure deafness, or even to diminish it very noticeably, by the sole means of auricular exercises.

The secret of success in such a case consists almost entirely in the use of a faculty which had previously remained uncultivated.

The instructor teaches speech to the ear by placing himself within the field of hearing of the pupil; it is thus that a near-sighted child is taught to read, without noticeably improving his sight, by bringing as near to the organ as is necessary the forms which are to be studied, analyzed, and interpreted.

If it is correct to say that the frequence and continuity of sonorous stimulants, as well as the persistent effort of attention, cause a slight improvement in the sense of hearing, it must be equally admitted that this first progress soon stops, and holds little definite place in the final result.

There is no reason to believe that the microphonograph can accomplish what cannot be accomplished by the voice, or by ear-tubes, or by the numerous acoustic instruments which have been used until now to develop the power of hearing. Like all these instruments—and not more than most of them—it subjects the ear to the influence of sound-vibration.

Unfortunately, experience has already shown that the definite result is entirely subject to the degree of hearing which exists, before any exercise, in the pupil to be educated, and that on the other hand the majority of the deaf are not capable of receiving benefit from this special training.

* See on this subject the reports on auricular instruction (from 1885 to 1889) and the numerous articles on this question which have been published in the periodicals which treat of the education of deaf-mutes.

4. *Can the microphonograph teach speech to the deaf without the aid of sight and of touch?* *—There remains another important point to be examined.

It is proposed, as you know, to teach articulation to the deaf-mute by the sole means of the microphonograph; sight and touch are thus displaced from the part they have hitherto taken in our teaching.

Your pupils, we are reminded, are dumb only because they are deaf. Let us take away the deafness then (that is the affair of the microphonograph), and at the same instant we shall put into motion the organs of speech.

The deduction is logically unassailable, but we must begin by curing the deafness; we must re-establish the normal functions of the organ of hearing. We have some reason to believe that such an undertaking would not be without difficulty.

They bring to their support, on this point, the *special* effect of the microphonograph upon the centres of hearing (we are already enlightened as to this), and they add that "one observes the awakening under this influence of other centres connected with that of sound sensations, the secondary stimulation so important of the language centre, and the comparatively quick appearance, in the intelligent

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* "The excitement of the auditory nerves and the nerve centres of hearing by the microphonograph has a superior effect to any other means of education, because it follows the natural course in the development of language, and succeeds directly in awakening and rousing hearing and speech."—Dr. Gellé, in *Tribune Médicale*, October, 27, 1897.

"Dr. Gellé, aurist at the Salpêtrière, has shown results in clinic by which it is possible, through the microphonograph, to introduce into the brain of young deaf-mutes the perception of sound, and, consequently, *the tendency to repeat it under an articulate form, that is, to speak.* Dussaud's apparatus, from which we expect this revolution, or, rather, which has already begun it, etc. * * * It is to these qualities that Dr. Gellé attributes the results which he has had in using the instrument in the treatment of several young children who were *completely deaf*, and consequently dumb."—*Revue Générale des Sciences pures et appliquées*, December 30, 1897.

child, of attempts to imitate the motions of the mouth."—(Dr. Gellé, in *Tribune Médicale*, October 27, 1897.)

All this means that the deaf-mute will soon reproduce the phonetic elements, words, and phrases which the apparatus is supposed to make him hear and distinguish.

Far be it from us to doubt the close connection between the function of hearing and the act of speaking. The ear, in the ordinary young child, is, no doubt, the first door for the entrance of speech, if we can thus express it. Still, it is necessary that this natural way should be wide open; now this is a condition not realized in the deaf-mute.

The hearing of our pupils always has many *lacunæ*. Those who are least deaf are unable to distinguish perfectly the elements of speech. This disability continues even when, by our teaching, they have learned the mechanism of articulation, that is, when in their mind, words are presented under the form of verbal or acoustic images more or less vague.

The significant nuances of vocal tones always escape them to a large extent, and aural instruction is powerless to fill these *lacunæ*. It is easy to convince one's self of this by trying to make the pupil understand the entire series of vowels and consonants in a new order. Mistakes in such a case are very frequent, and they would be more numerous if the exercises consisted of simple or complex syllables without meaning.

As to the still deafer children who form the majority in our schools, it is with great difficulty that they can be brought to recognize through the ear four or five phonetic elements; and some of them are unable to differentiate sounds in the least.

This is the result of the use of the voice alone, and our present experiments have convinced us decidedly that the results obtained by the microphonograph are, in this respect, *very inferior* to those which can be obtained by the voice alone.

How, then, can deaf-mutes repeat what they cannot *distinguish?* In spite of the most optimistic theories, the action of the centres of hearing on the centre of the motive memory of articulation can be effective only within the strict limits of the differentiations actually made by the said centres of hearing. In the case of the normal hearing of language, the point in question is not one of mere synthetic influence, but of analytical effect which is rendered in extremely fine and complex nuances. It is precisely this delicate analysis which the ear of our pupils is always powerless to accomplish, especially when one uses the various acoustic instruments, ear trumpets or the microphonograph.

I do not know that the subject of whom we spoke above, who beat time with so much apparent precision while hearing the "Marseillaise" on the microphonograph, has learned to sing since with the best intentions they submitted him to this experiment. It is easy to foresee that real deaf-mutes would show themselves equally rebellious to the acquisition of speech by the one means of hearing.

Experiments, moreover, have more than once been made with the voice alone,* superior in this respect to every kind of instrument, and in no case has success crowned the efforts of the educators, although they have experimented only with pupils of comparatively good hearing.

Our partially deaf hear in almost the same way in which they read the lips. A little understanding of what is said is sufficient for them. Previous knowledge of the word or phrase in three ways—articulation, writing, and meaning—enables them in a measure to supply the many details which are hidden from the perception of the eye as well as the ear.† It is just what we ourselves experience when

* See, on this point, the results of the experiments of Itard.

† And it is for this reason that, in experimenting with the microphonograph on children already knowing speech, we are placed in the best pos-

we understand the speech of a person who is addressing us from a considerable distance.

It is admitted that this way of hearing "in a lump," which is the only one at the disposal of the partially deaf (even those who hear the best), is of no use at the beginning of the study of articulation.

5. *The acquisition of articulate speech in normal cases of hearing is the result of a comparison which the child makes between his own vocal utterances and those which he hears from others*—without considering that the progressive and gradual education of the vocal organs by means of the hearing requires the existence of another essential condition.

"Vocal imitation" does not take place in the ordinary young child except through the effect of a continual comparison between his own utterances and those which impress the organ of hearing from outside. He succeeds in this way, after long and very laborious attempts, in reproducing at last, with considerable exactness, the sounds which come to his ear.

Now our pupils (I always refer to those having the best hearing) hear themselves even less well than they hear others. This inequality of perception is explained by the fact that the instructor, in order to make himself better understood, speaks as closely as possible to the ear of the deaf, at any rate during the beginning of the instruction.

We must not give too great an importance to the internal hearing which is caused by the vibratory shock of the phonetic organ in the act of speech upon the ear or the acoustic centres of the speaker, for the sound wave does not acquire its definite form until after it leaves the

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sible conditions. With the deaf who have received no instruction, there would be no results—if the apparatus were really *used alone*. When one uses at the same time the ordinary methods for removing dumbness, what part has the microphonograph in the final result?

mouth, when the lips have done their part in its modification. If this internal vibration could act in an efficacious manner upon the auditory centres, and if massage of the ear could produce in the majority of cases a good effect upon the organ of hearing, most of our pupils would recognize through the ear vowels, consonants, and words, since all talk and articulate constantly.

In fact, the shock produced by the spontaneous communication of the vibration in the larynx to the solid parts of the head, and consecutively to the different centres of speech and to the internal ear, is not less than that which is produced by the different acoustic instruments. To be convinced of this, it is only necessary to place the hand in close contact with the ear or on top of the head, while one pronounces for example, the vowels *ou*, *i*, *u*, and the consonants *l*, *y*, *m*, etc. Unfortunately, the hearing of a great number of our pupils is not at all benefited, it seems, by such a sound vibration.

Our partially deaf, so far as the study of articulation by means of the ear is concerned, are almost exactly in the condition in which a painter would be with respect to the phenomena of sight, who, seeing exterior objects in a very uncertain way, should become almost blind as soon as his hand touched a brush, or when, in order to compare it with the model, he wished to examine the work thus executed by the sense of touch without the control of the appropriate organ.

To tell the truth, we do not much regret the impossibility of our pupils reproducing exactly the sounds of the microphonograph, and, consequently, of learning articulation by means of this apparatus. Most of them would only lose by it. The variations of tone are perceived in a certain measure only by those who have preserved a considerable amount of hearing. These possess a pronunciation far more intelligible than that produced by the instrument, and their voice does not have the unpleasant tone which

is the great drawback to the sounds of the microphonograph.

6. *The methods actually in use to teach speech in schools for the deaf do not depend exclusively upon the employment of the visual sense. The hand is the real ear of the totally deaf.*—In order to emphasize the importance of the reform which would be accomplished by the introduction of the microphonograph into schools for deaf-mutes, they assert, basing their argument on a common belief, that our method of teaching articulate speech is exclusively visual.* This is a great mistake. If the special teacher had no other means at his disposal, lip-reading and studying by the eye the movements of the phonetic organs would be as ineffective as the partial hearing of our pupils in re-establishing the regular functions of the vocal organs. This laborious work cannot attain good results except by the constant use of *touch*. The hand is the real ear of the totally deaf. It is owing to the information which they get by this means that our pupils, even those without speech at first, acquire the idea of sound, and succeed in producing and even modifying and differentiating to a great extent the vibration of the larynx.

The hand adapts itself marvelously to the necessary comparisons between the vocal emissions of the deaf and those of his instructor. It perceives the rhythm, the in-

* "They actually conduct the auricular education of young deaf-mutes by means of the microphonograph. In order to do this they make them hear the different vowels thousands of times. It can be seen that this awakening of the sense of hearing will greatly help them in the use of speech, which they have acquired up to this time only by *studying the movement of the lips*. It must not be forgotten that deaf-mutes are dumb only because, being deaf, they have never heard sounds, and that the microphonograph in giving them the perception of sound," etc.—Jaubert, in *Nature*, February 6, 1897.

"In giving the idea of sound to these unfortunates, it would be much easier to make them articulate the words clearly, which lip-reading teaches them to pronounce.—*Revue Générale des Sciences pures et appliquées*, December 30, 1897. (From a lecture given by Dr. Laborde).

tensity, and up to a certain point, the musical pitch. It even distinguishes between the principal vowels, given two by two, and this without the aid of sight. In a word, in the totally deaf, or those considered as such, the hand carries the analysis of sound and the study of vibratory motion much further than the microphonograph can do, acting upon the ear.

To resume these various points, it may be said that the microphonograph gives to our pupils only a vague idea of sound vibration, as a differentiated sign of language. In regard to children who possess a remnant of hearing worth cultivating, it shows itself inferior to the voice alone. In respect to the progressive development of real hearing, it acts in the same way as all the other instruments of sound, that is as the producer of a vibratory motion of variable intensity. Experiments have proved, in a conclusive manner, that the lesions of the ear or of the auditory centres cannot be overcome under the influence of a simple exterior vibration.

We think that no very near-sighted or enfeebled eye has ever been brought back to its normal state by submitting it to the action of a series of luminous stimulants more or less intense. We content ourselves with using and exercising carefully the visual sense still existing. The latter training takes place, almost always, spontaneously and instinctively, while that of the ear has to be directed.

It is just there that the difference lies. Neither in the one case nor the other is the real amount of perception increased to any great extent by exercise, and it always falls short of the ordinary limits within which the organic function of normal individuals is performed in its entireness.

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[TO BE CONCLUDED.]

A STUDY OF THE DEAF, WITH AN ANALYSIS OF 170 PUPILS AT THE PENNSYLVANIA INSTITUTION FOR THE DEAF AND DUMB.*

"A STUDY of the Blind"† was presented before the College of Physicians of Philadelphia by the writer on December 1, 1897. This research considered the analysis of 180 pupils studied at the Pennsylvania Institution for the Blind. The object of the investigation was to explain and to elucidate the mental, moral, and physical characteristics of those persons who from birth or accident had been deprived of sight, and thus to alleviate the distress which such loss brings to the afflicted, as well as to their families and to civic life in general. The writer feels some satisfaction in knowing that this analytical description of these unfortunate beings has stimulated more acute observation of their mental and physical failings, together with the emphasizing of redeeming and compensatory features which blindness entails. It is truly so, that, aside from sickness or chronic disease, half the world knows not how the other half lives. The endeavor to interpret the meaning and method of life in these individuals is most difficult, yet the attempt to see them as they are among themselves and in association with normal people, is a most interesting metaphysical and practical study. In this very intricate problem the difficulty of interpreting their limitations of life greatly increases when the blind individuals are also deaf and dumb. The wonderful case of Helen Keller proves the great ascendency of pedagogy over the methods of instruction which appeal to the senses when not cut off from the external world; it shows, too, the progress of the normal mind as

* Read before the University of Pennsylvania Medical Society, May 18, 1900.

† Transactions, vol. xix.

well as that of the one fettered by this triality of affliction. If in ancient times such a remarkably educated person had been exhibited, would she not have been thought bewitched indeed?

I shall report the case of a deaf, dumb, and blind boy in this paper, to detail especially the methods of teaching him. He was seen through the courtesy of Dr. J. A. Burgoyne and Mr. J. A. Jones, Superintendent of the Ohio Institution for the Education of the Deaf and Dumb, along with the privilege of observing the general characteristics of the other 500 pupils there. The main study, however, is indicated by the title of this contribution, and has been made upon the 500 pupils of the Pennsylvania Institution for the Deaf and Dumb at Mt. Airy, through the courtesy of Dr. A. L. E. Crouter, the Superintendent, and of the Board of Managers. The New Jersey State School for Deaf-Mutes was also visited, through the courtesy of the Principal, Mr. Weston Jenkins, in which institution the mechanical and artistic vocations receive especial attention; thus the teaching of millinery is a very brightening occupation for the girls there, and the eyes of the deaf are particularly alert in an almost "compensatory" fashion, as it were.

With the teaching of lip language has come the great boon to deaf people. Though they will always use signs to express emotion much more than normal people, still the getting away from this essentially juvenile characteristic will tend to bring deaf people more and more out of their limited horizon into a broader light, touching and associating more with the civic world in general. It is for this same reason, after a conscientious study of the conditions maintaining in the evolution of the education of the deaf, and amplified by questioning their teachers with whom the writer has come in contact, that the decision drawn is, naturally enough, that institutional training is necessary in the early life and up to the time of fitting the

deaf person for earning his living. But here the line must be drawn against institutional training, if these people are to be most elevated in the scale of life. The record of Mr. Fechheimer, which is interestingly stated by himself,* shows a deaf-mute can be graduated from college even without great embarrassment. Both from evidence written by this young man and in a very capable article by Mrs. Graham Bell on "lip-reading," we learn that deaf-mutes as by "second nature" get language in this way without difficulty, and from persons, too, not attempting to be explicit; also that it is better not to exaggerate labial movements in speaking to a trained deaf person. A wonderful example of this is recorded at the end of the paper. Brain development as the result of facial expression must be borne in mind, and this is favored by the oral training of the deaf-mute.

With these thoughts on the necessity for broader light in aiding deaf people to higher attainments, which are quite convincing to myself, I shall not further speak on this point until another time, but will give an analysis of the interesting study of the deaf child, be the deafness hereditary or acquired, and of peculiarities which are certainly most pronounced in them; also of the sadder picture of an adult suddenly becoming deaf. All of these investigations tend to emphasize the subtle manner in which the normal person acquires natural characteristics without discerning the individual phenomena that make up the beautiful aggregate of the whole and wonderful being. It would seem, too, that this thinking-out process should not entirely go the way of all flesh, but would tend to develop the higher life study that makes the character of a person; and with this intricate study of what may at first sight seem trivialities, we may evolve the *raison d'être* of the real superiority of one man over

* *Association Review*, i, 27–34.

another. It is for this reason, therefore, that while the main thoughts of the contribution will be upon the entire number of cases studied collectively at the three institutions cited, with a few observations on several cases seen elsewhere as indicated in the context below, still the *detailed* analysis of physical and mental characteristics, as tabulated, of the 108 boys and girls closely observed in the kindergarten department, is given.

A noticeable feature of deaf-mutes is to have high-pitched voices when they are able to speak at all, while persons who are only partially deaf are apt to have low-pitched voices and talk in rather a muffled undertone. This is contrary to what one would expect, but I suppose it must be due to loss of memory for tones and in not expecting to hear their own voices—though the one talking to them may be comprehended by shouting. The peculiar sensitiveness about their affliction amounts to positive suspicion at times, and makes both partially and totally deaf very alert with the eyes. These organs do a compensatory work which usually gives deaf people rapidity of ocular movements and acuity of vision. This oscillation of the eyeballs, as seen in some of the little ones studied, might be termed pseudo-nystagmus. Deaf children are very quickly attracted by colors, noting carefully with eager introspection the dress of teacher or visitor. Color memory is highly developed, as tone memory must be proportionately decreased in them.

The wonderful aptness in an otherwise healthy totally deaf child, is illustrated in the following instance: The little one had been taught the word "upstairs"; and on seeing one of the boys climb a tree, he ran in school to the teacher in great glee exclaiming with high-pitched monotone and pointing to the tree, "boy upstairs a tree." This was the nearest expression he could give to his overflowing exuberance. Another instance was told me by Miss Wells which occurred while she was teaching at

Northampton, Massachusetts. The abbreviation of that State name "Mass." had been taught the pupils in writing, and on asking one of the boys where all good Catholics should go, he replied "to Massachusetts."

An interesting feature in the study of deaf-mutes is their wonderful aptness at pantomime, especially in the sign-language. In proportion as the lip language is cultivated, will signs *per se* be used less and less frequently. Pantomime subserves a very important place in the sociology of deaf-mutes, for by it the ability to communicate with themselves and with the outside world is amplified. If with the eyes alone one person can interpret the meaning of another, then how much more facility this sensorium affords the deaf-mute who acquires wonderful skill in communicating by "signs" only. Movements of deaf people are quick, though incoördinate, and, when properly trained, they become very agile, constantly observing things and events not apprehended through the hearing. Therefore the deaf person from the lower poor walks of life with institutional training grows much above his kin; and the disparity of such an one with his family, at the end of this discipline, is most striking. Indeed, this eleemosynary training shows the advantage of schooling the deaf, as this more finished product of the deaf graduate, with all his limitations, is far above that of his more ignorant parents. All this proves that every sort of properly conducted education is of great benefit, and so far in this work among deaf-mutes America leads. As there is no political or other reason for advancing these restricted individuals, the common basis of life without rank distinctions is upheld in an ethical way in institutions for the education of the deaf.

Other motor phenomena characteristic of deaf people are here to be noted. Automatic acts in them are much more frequent than in normal individuals. This must be explained by the ready adaptability of the muscles to co-

ordinate and associate movements which from constant reiteration more easily become habitual in them. The deaf child at dinner will make a thousand and one more movements both in time and range of activity than does the seeing or blind individual. The mind of a deaf person is undoubtedly as good as that of a normal individual, but it is the working of the machine which controls it that is at fault; and this through the deadened auditory sensorium. The *intellectual* and *physical* subdivisions of the triune of human existence become somewhat compensatorily educated in the deaf. This unbalancing, as it were, of the mind processes, *i. e.*, the method of expressing and appreciating one's surroundings, is what makes the essential difference between a deaf and a hearing person, which latter has the third element of the trinity of healthful existence intact, and with this unhampered sensorium can attain *fullest* development.

Gait and Station.

The manner of locomotion is one of the peculiar characteristics of the physical state of deaf individuals which is difficult to analyze as to etiology. No doubt the main reason for this so-called "shuffling gait" is in the fact of not hearing their own footsteps and in the muscular sense becoming somewhat obtunded through the lack of the auditory assistance to the sense of touch, which alone has to bear the physiological burden.

Some cases of undoubted organic internal ear disease, when caused by meningitis through extension by continuity of the meninges, produce irritation of the cerebral cortex and a resultant spasticity of the muscles of the arms, of articulation, and, when more general, of the lower extremities. This, of course, when present, is due undoubtedly to an ingravescent exudate—a process in the

pathologic state.* This is a very important point in diagnosis, when existent, as between organic cases and the so-called essential cases of hereditary deafness, where some atomic changes in the brain cells alone must exist; therefore undetectable by known histologic technique. The discovery of a rigid condition in any part of the body in a deaf person pretty positively assures us that some organic change has taken place in the motile brain mass, and leads to determination of this atavistic condition in the human race even although it offers no solution for the stamping out of the defect. Here it is in place to record one's opinion upon the grave question of intermarriage of deaf people with hearing persons; in view of the scientific observations of Lombroso as to heredity of acquired characteristics, it must be self-evident there is always great danger of transmitting this unfortunate disability in the marriage of a deaf person to any individual *whatever*. This peculiarity of protoplasm to crop out in deafness in even a remote generation, having been once established, is a most fascinating and intricate problem to seek; but like the attempt at solving "perpetual motion," it brings only turmoil to the brain and no definite results to the limitations of man's knowledge, when there is so much of practical value for the betterment of the human race for which to be sought. After all, such scientific study undertaken by the mind has its results brought to nought by the mistaken effort of trying to interpret essentials of highest life conditions,—when they belong solely to a higher power, which no man can but admit if he is to be judged "*mens sana in corpore sano.*"

* Since this paper was written an instructive case has come under observation (*Pennsylvania Medical Journal* for August, 1900) in a case of restored speech and hearing due to a fall from a height. The man was 69 years of age; had been a deaf-mute since 12 years of age, following "ear disease" at 10 years of age. Patient fell off a step-ladder July 9, 1900. No injuries, but general bruising of body. Began to speak at once, but did not remember at first. Patient continues to speak well and hears in one ear.

Co-ordination in the Deaf.

The station of a deaf person is apt to be unsteady and is the more markedly so in those with acquired deafness due to inflammatory lesion. The influence of the semi-circular canals in assisting to maintain normal equilibration is very much emphasized when the observer studies the motions of deaf children; their manner of progression is of a shuffling, unsteady nature. There is a tendency, also, of the partially deaf person in progressing towards objects to move more toward the direction of the most deaf ear. In this way, such a phenomenon is somewhat similar to the same deviation toward the blind side in a person having defect of vision in one eye alone. Later in the education of such unilaterally deaf or blind people, the wonderful conservatism of nature manifests itself through this particular effort at self-preservation in thus causing the individual to be acutely alert to objects present on the impaired side of the body, and so keep them at a safe distance from such objects, although it is evidently then a mental acuity thus developed. Deaf people, as recorded above, are constantly moving the head about in progression, or, indeed, while sitting, in order to catch what escapes the ear, and this causes a peculiar restless characteristic which may be mistaken for alteration in the gait *per se*. All motions in the deaf are irregular. Muscular rhythmical action is physiologically closely attuned to the auditory apparatus, so that while a deaf person seems to be constantly making rhythmical endeavor, he does this from a consciousness of this defect of rhythm. When a specially fine quality of artificial rhythm is being attempted, this defect is more clearly shown; as for example, in the case of two young girls who endeavored to waltz for me at the New Jersey school. That their movements are most arhythmic is very evident to the hearing person when dancing with a deaf-mute.

Facial expression is of vivacity without proper control in the deaf.

In working with the hands, as in the case of the young girls doing millinery, there is a certain amount of crudeness of motion. For this reason, the article does not have such nice artistic finish as though done by a normal person, but, as inferred before, it will be found the bonnet is at least brilliantly adorned when completed. This does not so much apply to adult persons, since education and environment have played their parts in moderation in this regard. It is the untrammeled spirit existing in youth we refer to as being particularly different from that of the normal young person. The great importance of teaching the deaf by the methods used in teaching hearing persons is emphasized for both sensory and motor control. The more attention this is given in the pedagogy of the deaf, the better will be the bridging over of the psychic chasm due to deafness; remembering, always, the danger of overworking a person deprived of any one sense. The difficulty of determining in some cases whether a child is imbecile or deaf is of importance. Freud's theory of existing connection between appreciation of component parts of words or phrases through the labyrinth, and, therefore, the dissociation of perception of speech in some persons with internal ear disease, is important to study in this connection.

Reflexes.

In 90 per cent. of deaf persons there is general excitability of the central neurons, due to inherent perceptive stimulation of the brain in the endeavor to make up for the loss of other avenues of entrance to this organ of the mind (as the ear) from stimuli existing in the surrounding world. It is for this reason, I think, that the reflexes are increased in the hereditarily deaf person. The tempera-

mental influence, therefore, has little weight in modifying the response to knee-jerk, and a deaf person of lymphatic constitution will no doubt protest against increase of reflex without being able to determine prohibition in those responses which are manifestly increased by the excitable nerve-cell habit acquired through post-natal central stimulation of the vitality of the deaf individual.

Physique.

The deaf individual without specific disease, and especially when hereditarily so, presents no great physical difference from that of the normal person, at least in the gross constituents of his being. It is the more subtle psychological phenomena that the substance of this paper shall portend. However, as bodily aberrations do modify mental characteristics and resistance-power in all people, we must not fail to interpret this in the growing deaf child hampered by bodily disease. Among the young pupils here studied it is evident that peculiar mind conditions are thus bestowed upon them, *e. g.*, I take it that the reason for especial backwardness in a child with enlarged tonsils, and therefore with difficult speech, is that the deformity being but a concomitant state in the physical make-up does yet exert depreciative influence upon the subject by just this amount of interference with the expression of mind action. So that in the imbecile child, as in the deaf child with normal brain, these conditions modifying normal speech should all be most carefully studied, and if possible corrected. While the work of the late Dr. Harrison Allen in this line was most critical and exact, still to hope for great amelioration of either imbecile or deaf children through correction of organic speech defects is laboring under too enthusiastic interpretation of the premises considered.

Chest Expansion.

This is perhaps in 50 per cent. of deaf children of much less amplitude than in hearing people, because of the fact that many deaf children have obstructions in the pharynx. Poorer nourishment from lack of oxygenation of the blood, of course, follows.

In the remaining 50 per cent. approximately, and in cases without respiratory obstruction, therefore, respiratory expansion is probably greater than in normal people of the same age, on account of this compensatory action of nature manifested and shown through all life processes. That the difference in the measurements we show in the tables do not exactly correspond with this theory is perhaps due to the difficulty in making young children understand our meaning when asked to take a long inspiration. For the same reason, it would be difficult to measure lung capacity of deaf persons by means of the pneumometer. This same condition was experienced in the "Study of the Blind" referred to above.

Circulation.

The cardiac action in deaf persons is apt to be irritable, bounding, and easily modified by the impressionistic side of life. For the emotions are much more developed, it seems to me, in observing the thousand deaf persons *en masse* here studied, and in the endeavor to compare them with the same number of people in a "crowd," as the expression goes. We detected no anomalies of the heart in the 170 cases concretely studied. The circulation of deaf persons is pretty consistent with the cardiac irritability, although a vasomotor ataxia is evident in the most neurotic type of these persons. This bears upon the conception of an irritable nervous system being existent in the deaf and, of course, manifested in the sympathetic as well as in the cerebro-spinal system already referred to.

Special Senses.

Deaf persons are apt to be acutely sensitive to touch, yet, not having depended on this special sense so much as blind people, do not have it developed to the same degree as the latter. At the same time, it is more acute than in normal persons. Without an accurate time-recording æsthesiometer, indeed if with it, this hypothesis cannot be proved, but it is certainly upheld by the clinical evidence in observing large numbers of deaf persons. The vibrations in the floor on approaching deaf persons are very quickly perceived by them, and one is astonished frequently to note the quick perception of a stealthy approach when the experiment is attempted. I recall the case of a totally deaf man who, as helper in a saw-mill, always determined the start of the engines with great acuteness by the vibrations, even though he were quite distant from the mill building itself; in more than one serious accident about the place, this deaf-mute, not entirely by luck, I take it, escaped injury. I am inclined to think that this compensatory development of function of the general sensorium in the deaf is an increment in the causation of nervous temperaments predominating in them, and of their greater susceptibility to the effects of heat and cold. This same sympathetic nervous system irritation is the reason for the rapid change in pulse rate, sudden alterations of the thermal state of the extremities, sweating, blushing,* etc., the latter of which has been studied in another place.

With this, the muscle sense is much augmented in the deaf, and to this degree the vicarious special sense training. I think the deaf person is better enabled to co-ordinate; for, as noted above, the station is not often markedly disturbed even with those having much disease

* "Flushing and Morbid Blushing," in *Philadelphia Medica lJournal*, March, 1899.

of the internal ear which would involve the semi-circular canals; and such involvement according to our physiological teaching would entail more or less degree of loss of equilibrium. A most singular phenomenon in the deaf is the fact that they seldom become seasick, and this, as explained to my satisfaction in another place,* is due, no doubt, to inspissation of the inter-auricular fluid within the lymph channels of the semi-circular canals; which, when normally limpid and surging about, causes many cases of *mal de mer* of the reflex type.

While these scientific data in regard to the deaf, which I take to be verified by the observations made, are worthy of consideration with respect to the aberrations of functions in the deaf, they also forcifully teach the restrictions under which their human bodies labor for the attainment of the beauties of living. All this, from the civic point of view, should stimulate better scientific interpretation of the defects of our maimed classes, and this again refers back to the advantage, at least, of their *early* institutional training. I should almost say that this vicarious action of the nervous system, when one avenue of inlet to the brain is cut off, is also frequently demonstrated in acuity of taste, for I have never seen children more sensitive to the response to wholesome food, as provided at the Pennsylvania Institution, and indigestion is not an uncommon *sequela* of too much indulgence.

Age of Deafness.

In attempting to determine the age at which deafness began in the acquired cases we have a difficult problem to solve, which would be of not a little scientific interest.

Many cases are recorded on the entrance sheets prepared by the relatives as having acquired deafness which in reality were, no doubt, congenital. For example, one

* *New York Medical Journal*, July 29, 1899.

case reported the deafness commencing at the forty-first day, and we frequently see noted that deafness followed a "fall," "catarrh," "concussion of the brain," "earache," "grippe," etc., varying from one and a half to two or three years. Of course, this is the time during which development of speech occurs and the defect of hearing is but accentuated then. It is at this age that the backward children are often confounded with deaf children, as the writer has previously observed in "The Study of Backward Children." * A reference to the details will show points of interest that cannot be analyzed in the text without extending this paper beyond limits.

Cause of Deafness.

There are recorded 15 born partially deaf among the boys in this primary department, and 33 recorded as having been born entirely deaf. 50 boys became totally deaf after birth. This leaves 10 boys unaccounted for as partially deaf, who we are pretty positive should be placed as totally deaf pupils, since there is a great tendency of parents to exaggerate sense perception into the statement that the patient really hears when he does not. About 40 per cent. of the boys, with this correction, were born totally deaf, about 13 per cent. were born partially deaf, and 47 per cent. acquired deafness either complete or partial through disease. Meningitis ranks highest in etiology, as emphasized by Dr. George C. Stout.† The reason for meningitis being frequently a *sequela* of ear

* Transactions of the American Academy of Medicine, 1893: "A Study of 522 Cases."

† There is not sufficient data at hand to give the percentage of cases due to nerve lesion *per se*. The most common causes of deaf-mutism are scarlatina and diphtheria. The nerve lesions when present are neuritises secondary to the above diseases, or to meningeal or cerebral lesion as a rule. Moreover, probably 25 per cent. of all meningeal lesions are due to middle ear diseases (personal communication).

disease in children is due to the close vascular intercommunication between the ear and cranial cavity; and, while scarlet fever and throat affections are the predominant original causes for such complication, we can assume that in the histories meningitis was simply not mentioned as being sequent to some one of these infectious diseases. One hopeful feature in the prevention of deafness at the present time must be considered to be in the more successful treatment of diphtheria by the use of antitoxin. We can hope that in the next decade the statistician will record a total number of proportional diminution of acquired deaf-mutism.

Among the girls there were recorded 7 (or 11 per cent.) born partially deaf and 28 (or 45 per cent.) born totally deaf. In 27 (or 44 per cent.) deafness partial or complete was acquired through disease. These percentages are proportionately determined by calculation to be approximately the same as that of the boys just given. We did not demonstrate any cases of that rather anomalous condition where the individual could hear but yet not speak, which we are inclined to place in the hysterical category unless such be a case of imbecility; only two or three of such cases are at the institution, one being the instance of a colored child. A very large number of the children examined are, of course, much below hearing individuals merely from the restriction of intellection through the special sense of hearing.

Head Circumference, Etc.

There was a normal uniformity as to the size of the head, the average being about 19 inches. In 15 of the girls the palatal arches were higher than normal, and in about 33 per cent. the tonsils were enlarged. In about 30 per cent. of the boys the palatal arch was higher than normal, and in about 33 per cent. there were enlarged tonsils or excessive lymphatic tissue in the pharynx.

The relation of high palatal arches to any mental defect was not noted, but it seems to me is an index toward pointing out incipient tendency to mental backwardness. The enlarged tonsils in one-third of the cases is indicative of the predisposition to infection of the throat and ear, and more remotely of the centres of audition in the brain.

Consanguinity.

The difficulty in determining consanguinity of parents or close ancestry is shown by the fact that among the 62 girls studied, only in three instances was consanguinity admitted by the relative giving the data as recorded on the Pennsylvania Institution blanks. In one of these the record stated parents were *third* cousins. Among the 108 boys there are but four instances in which it is admitted consanguinity existed in the parents, and, in all of them, this not nearer than second cousins. There must be among all of these many hereditary cases of deafness withal, therefore, many instances of consanguinity in the parents which they *refuse* to admit. It is a question whether or not deafness may come from the intermarriage of relatives, even though they or their ancestry give clear histories of no deafness having existed in that particular lineage. At the same time the intermarriage of relatives, even the most healthful specimens, should be interdicted, since if some one of the special senses be not impaired in the progeny, there is likelihood of physical abnormalities or deformities such as spina-bifida, webbed-toes, etc. The whole subject of involution and evolution in both the vegetable and animal kingdoms is fraught with a most intense interest to one who attempts to follow out the method of that early Babylonian philosopher, Zadig. The fact that this man, who was such a determining factor in producing the spirit of true research, came near martyrdom on account of the scientific truths he proclaimed, and

which he ultimately *proved* to be truths, should be an immense impetus to a scientific man of the free 20th century.

Nationality.

As far as we can get from the records, there is no special predisposition to deafness of one race or nationality over another.

Deafness Among Relatives Other than Deaf Parents.

Among the 62 girls there are 16 instances recorded of deafness as per above heading. Among the boys there were 27 instances in the families. In 9 instances among the 62 girls it was brother or sister who was also deaf, there being 5 deaf children in one family. There were 5 deaf and 5 hearing children in two families, in one of which families there was the peculiarity of alternation of the deafness occurring among them. This brought the interesting thought of the possibility of the likeness of the affected child to one or the other of the parents, in whom the predisposition to deafness at least might have been existent. This subject of immunity and predisposition the writer has mentioned with Dr. Wharton Sinkler in a "Study of Family Diseases,"* in which the example is recorded of small-pox immunity occurring in those children of the family who had resembled the previously affected parent.

Following out these studies in heredity, it is interesting to note transmission of color blindness—that rare affection which is an intricate subject to trace definitely. In an instance which I am to report before the American Medical Association, father and daughter somewhat alike as to erratic characteristics had this peculiar phenomenon alone in the family. A peculiarity of the eyes in heredity is

* *Journal of American Medical Association*, February 11, 1900.

shown in the following instance given to me by a physician of Delaware city. In a litter of cats, those born with blue eyes were generally deaf, while those born with pink eyes had the hearing preserved, although they suffered, of course, from intense photophobia due to absence of pigment. This brings up the interesting problem of embryological laying down of pigment in relation to the development of the internal ear or its more external organ. Not entirely out of place is a recent instance coming to the writer's notice of five daughters and three sons. Each of the daughters developed diphtheria on reaching the age of four to five years; four of them dying from the disease, the oldest alone surviving. The three sons never developed the disease. I have no record of the resemblance to one or the other parent nor of the history of diphtheria on either parental side. That there was a subtle predisposition in the females seems very probable.

Special Cases and General Considerations as to the Deaf.

Case 1.—An instance of a boy alternating from blindness to deafness, as recorded in the Columbus Institution some years ago.* I have been unable to trace the case and doubt very much if it was other than hysteria.

Case 2.—Leslie Orem, aged 9 years, examined at the Columbus Institution December 29, 1899, became deaf, dumb, and blind at two and a half years, through meningitis. It was on this day, December 29, 1899, the child first got a complete sentence, in which it was made most happy. Through the painstaking effort of his teacher, this sadly-interesting little fellow had developed quite rapidly into knowledge of the outer world. The method

* *Annals*, xxxii, 138.

of education of deaf, dumb, and blind persons need not be dwelt upon here. About the wonderful development of pedagogy since the days of the well-studied case of Laura Bridgeman, and of which Helen Keller is an exemplar of the high development of this art, we have little to say. There are about fifty such cases recorded as being so taught. The great interest of Helen Keller herself, now in Radcliffe College, and of this deaf, dumb, and blind little fellow, shows the wonderful results of this truly philanthropic effort and the progress being made by the blind and deaf themselves in their own circles. Detailing a few of the accomplishments of this Leslie Orem as we saw him, we noted the following: The child was eating an apple with his teacher as a reward "for having well done." He was then placed at a table, read the words given him, "the ball," when he reached for the ball in a basket, handing it to his teacher. He had been patiently taught the raised alphabet, then a few short words which were associated with the touch sense as applied to the object spelt. The wonder in such teaching is that the start can be made at all for the intelligent apprehension of the child. Having once been started, the mystery is cleared away, and the development of the imprisoned mind is only a matter of ingenuity and deftness of the teacher and intellection of the subject.

The method of instruction in the kindergarten of deaf schools is not to teach elementally but by the phonetic system. For instance, in teaching the lip-language to a deaf person, the a, b, c's are not taught separately, but are acquired during the first year. Thus the phonetic method is continued to the 12th year, after which manual training is carried on to the 19th year, when they are graduated fitted for any trade employment. The wonderful acuity of the normal mind of a deaf-mute in acquiring lip-language is shown in the instance of a French gentleman and linguist who visited the Columbus Institu-

tion in America and spoke in his own and other tongues to a deaf boy that was an advanced student. The pupil immediately interpreted vocally the man's speech, although he had not seen any lip-language other than English and, of course, did not understand any of the tongues he so well imitated.

As an interjection may be stated here the desirability of public school education of the deaf such as has been established in Boston in the "Horace Mann" public school.

Two Detailed Cases (Youth and Adult).

I. Two examples of sudden deafness occurring in childhood and in adult life it will be fitting here to state, for in these individuals, thus suddenly cut off from hearing, we expect to get the greatest mental and bodily disturbance in the loss of a special sense. The first case is that of a man reporting at the clinic for nervous diseases of Dr. S. Weir Mitchell on May 5, 1899, who gave a history of a severe blow on the head while on a toboggan eight years ago, of bleeding from the ears, and of unconsciousness immediately followed by almost total deafness. The pitiable condition of the sufferer was shown in every movement and expression, although he did not seem to have any special pain. His movements were awkward; he had decided shuffling gait; was suspicious of his surroundings; spoke in a low monotone; and from the fact he could not be admitted to the institution for the deaf at his age, was seeking advice in the last extremity. This man during the past year has gained some in the ability to read the lips, but his power to accommodate to the sudden loss of hearing is decidedly less than it would be in a child I have in the next case to report. He undoubtedly has a skull fracture passing both petrous bones.

II. W. C., age 13, reported to the clinic of Dr. Wharton Sinkler, December 18, 1899. There is absolutely no hereditary deafness in the family history. The boy's mental development was good and he had "perfect" health. His deafness dates from February 18, 1899, when he had a severe attack of infectious cerebro-spinal meningitis with convulsions, being ill seven weeks. There was a slow convalescence followed by deafness and tinnitus aurium. He has not been able to go to school since. What is particularly noticeable is that the child is becoming shy and backward, his expression is getting "blank," his mother says, perhaps due to the fact he cannot catch words unless shouted loudly into the left ear. Contrary to the man just mentioned, within less than the year (ten months) he is able to read the lips well. The peculiar psychological phenomenon is that he dreams much of being talked to, also frightful things, as of animals being after him. No doubt the former is an expression of continued mind action in an irritable brain set up by worry over his defect, and the disturbing dreams are no doubt expressions of the same perverted mind action and possibly directed toward this frightful expression through the suspiciousness developed in an impressionistic nervous system thus exaggerated in a supersensitive person. It is a fact that dream states are more apt to take on malicious expression in children, and indeed bad dreams very often leave a lurking impression of horror on the normal child, so that when he grows to adolescence a fear often retained is but the unexplained (to him) remnants of a remote dream in childhood. It should be said that in this boy there was no remaining external ear disease as examined by Dr. Randall; and Dr. Thomson reports the vision 15/15 in both eyes. Certainly this is a case for attempt at retaining the hearing by education of the remaining acoustic function, and, that failing in a few months, this child should be put for educational training in the Pennsylvania School.

Conclusions.

This study of the deaf has brought out some sociologic facts for interpretation which seem pretty clearly to prove the lowered resistance power of deaf individuals to external influences of all sorts, and that they are hampered and menaced to an unequal degree, depending on the moral physical fibre of the afflicted person.

Secondly. Cases of hereditary deafness are less apt to be psychically alienated subjectively, at least, from appreciation of their loss. That "the new world" of restricted special sense life is to them much less appreciated, as such, is due, no doubt, to accommodation through "heredity of acquired characteristics." These same hereditary cases do seem to have a different method of life engrafted upon them at birth.

Thirdly. Cases of acquired deafness in childhood below the seventh year will show awkwardness, sensitiveness, depression, or exaltation, in proportion as the deafness is not complete and the age of becoming deaf is near to this seventh year. If such children are placed in institutions for the deaf, much gain will be had in their psychological development, whereas if they remain at home with "hearing" persons, the influence for ill in these beginning years of training is in proportion to the method of teaching deaf individuals by hearing methods alone at this age.

Fourthly. The widest difference between hearing and totally deaf individuals is at once noticed in those becoming *suddenly* deaf, where adjustment of the nervous system to the surrounding world, with this delicate sense of hearing cut off, is one of sudden compensatory training which is an unusual burden in biologic life. In proportion as we have a stable nervous system, will this adjustment be better brought about, and the individual will be transferred toward the class of acquired cases in youth, or even to the facility in expression of the hereditarily deaf; in *all* of whom it must be said the human body is lacking

in *highest* attainments, albeit the wonderful compensatory expressions analyzed above are brought to the notice of the introspective student.

Fifthly. The value of teaching deaf persons in schools exclusively for them up to the 18th or 20th year is to be emphasized; after this, the nearer the process reaches out toward including hearing methods of pedagogy, the better results will be attained, and the deaf person, in continuing his more natural method in contact with the surrounding world, will be better able to contend his way in life.

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CHANGES OF METHOD IN THE PENNSYLVANIA INSTITUTION.*

In 1870, influenced by the movement in favor of some recognition of the merits of speech-teaching consequent upon the establishment of oral schools for the education of the deaf in Massachusetts and in New York, and by the report of a visit to European oral schools by Dr. Edward M. Gallaudet, wherein the introduction of articulation-teaching in all American schools for the deaf was strenuously urged, the management of the Pennsylvania Institution for the Deaf and Dumb introduced articulation-teaching for such pupils as might be able to profit by it, thus recognizing the desirability of teaching speech to its pupils, at least as an accomplishment, and changing the school from a sign-language school into what is popularly known as a combined-system school.

The sign-language method, the method of De l'Epée, Sicard, and their successors in France and in America, pervaded every department of the Institution during the period from 1820 to 1870. So easy of acquisition, so all-absorbing of the mental faculties, so enchanting to its users, teachers and pupils alike, it had become the one easy and acceptable means of communication and instruction throughout the school, and any step limiting its use or weakening its functions in connection with school work or social intercourse was received with many and great apprehensions. Signs for words, for ideas, for persons and places, in school-room and lecture-room work, had, in the course of fifty years, become so imbedded in the thought and practice of the school that they were regarded as the *sine qua non* of all successful effort.

Under such conditions the outlook for successful speech

* Read at the meeting of Department Sixteen of the American Educational Association, Charleston, South Carolina, July 11, 1900.

or articulation teaching was far from encouraging, when, in 1870, the first attempts at such work in the Institution were made. The method introduced, one still pursued in many combined-system schools, provided from thirty to forty-five minutes' daily instruction in speech, or articulation, and lip-reading; the various classes, in whole or in part, going in turn to the instructor charged with the duty of teaching speech to the whole school. At best the instruction thus afforded amounted to little more than a certain sort of vocal drill, tiring alike to both teacher and pupils. In no sense could it be regarded as instruction by oral methods.

Recognizing these unfavorable conditions, the authorities of the school in 1881 resolved to introduce separate oral instruction, at least for a portion of the pupils. This was eleven years after the introduction of articulation-teaching under combined-system methods. The experience of these eleven years was sufficiently convincing of the great difficulty, if not utter impossibility, of securing good speech and good lip-reading with only thirty or forty-five minutes' daily instruction, the remainder of the time being given to instruction under very different and antagonistic methods.

The next step was the establishment, at some distance from the main school, of a separate Oral Department for a portion of the pupils. This Department, conducted at first as a day-school, at the end of its fifth year contained ninety pupils and nine teachers. In 1885 it was changed from a day to a boarding school.

This important step was taken very advisedly. No class of defectives require for their development more specialized methods of training or more wholesome environing influences than the deaf. The managers of the Institution, recognizing the many advantages of home environment in the education of normal children, were fully sensible of the many arguments since then so widely ex-

ploited in furthering the interests of day-schools for the deaf. They, however, felt with Dr. Nathan Oppenheim that, while "a household is primarily designed for the needs, comforts, and pleasures of normal persons, it can only with difficulty subordinate its natural usefulness to the needs of abnormal children," and, realizing the serious harm that would be certain to result in the education of deaf children should there be failure to appreciate to the fullest extent the great differences between normal and defective children, were led, very wisely, to decide in favor of the boarding rather than the day-school system for this Department. In our experience under the day-school plan it was found very difficult to control attendance, to enforce discipline, or to secure satisfactory and helpful and healthful home influences. With the change to a boarding school, all these unfavoring conditions were remedied, and the work of the Department almost immediately assumed a higher and better tone.

The work of the Institution was prosecuted at this period (1883–'88) in the following manner: In the main school in manual or sign-language classes with instruction in articulation in half and three-quarter hour periods to a portion of the pupils; in two oral classes, formed in 1883–'84, in the same Department, and from which signs and spelling as means of instruction were excluded; and in oral classes in the separate Oral Department. Instruction was continued under this classification for five years, the orally taught classes slowly increasing in number each year. The articulation classes grew smaller, their speech-work in comparison less and less satisfactory, until the year 1888, when articulation-teaching of this character ceased altogether. Since then the work of the school has been practically confined to two methods only, the oral and the manual. Intermittent speech-work has been banished from the curriculum.

Comparative tests of the results under the two methods

were conducted for a period of five years (1888 to 1892, inclusive), grade for grade, class for class. The examinations, based on the work pursued in the Manual Department, were taken alike by the pupils of both departments, and in no one instance were orally taught pupils, of equal grade, found inferior to manually taught pupils; in many respects their work was superior. In the language tests their work was almost invariably superior; in statement of facts, as in history or geography, they also frequently excelled. The results of these tests were remarkable. They proved conclusively that the congenitally deaf, the adventitiously deaf, and the semi-deaf—in fact, all deaf children of good health and good mental powers—may be successfully taught by oral methods alone.

Upon the transfer of the Institution to Mount Airy in 1892, the separation of the Oral from the Manual Department was made complete by merging the two oral classes of the Manual Department into classes hitherto taught in the separate Oral Department. The merging of the pupils of these two classes with pupils similarly instructed, but without sign-environment, brought to light some interesting contrasts. It was found in the case of the former that their speech and speech habits were not so good nor so firmly fixed; that their lip-reading was not so reliable, and that their attainments were not in general so high. This was true class for class and pupil for pupil, and whether deaf-born, semi-deaf, or semi-mute. When closely compared with pupils who had enjoyed complete separate oral instruction, it was clearly shown that their years of sign-environment had told upon them for the worse.

The injurious effect of sign-environment upon pupils orally taught received further demonstration in our experience at Mount Airy, when, on account of the greatly increased number of pupils under oral instruction, we were compelled to associate intermediate oral classes with manual classes in the same hall. The work of the pupils

of these classes, in so far as their speech and lip-reading were concerned, greatly deteriorated, emphasizing in marked degree the statement already made that speech methods and sign or manual methods do not and cannot combine to the advantage of pupils instructed under what are known as combined-system methods.

Prior to the year 1892 the growth of the Oral Department during the ten years of its existence was slow. With the removal of the school in that year to Mount Airy, and with the passage of an act by the legislature, in the session of 1893, requiring all new pupils received into the school to be placed under oral instruction, and to be maintained under oral methods of instruction until it was plainly shown that they could not be benefited by it, the Oral Department has rapidly increased. The following comparative table gives the yearly increase from 1881 to 1899, inclusive:

Department.	'81	'82	'83	'84	'85	'86	'87	'88	'89
Manual.....	319	317	297	332	337	337	340	313	315
Oral.....	36	52	66	69	87	96	96	120	120
Total..	355	369	363	401	424	433	436	433	435

Department.	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99
Manual	312	312	274	200	176	152	121	93	66	48
Oral.....	120	125	170	260	304	350	390	416	440	452
Total.....	432	437	444	460	480	502	511	509	506	500

From this statement it will be seen that in 1881, when the separate Oral Department was established, the Manual

Department contained very nearly 90 per cent. of the total attendance, and the Oral Department a little over 10 per cent.; that at the beginning of the competitive examinations in 1888, the Manual Department contained over 72 per cent. of the total attendance, and the Oral Department less than 28 per cent., whereas in 1899, completely reversing their relative positions, the Oral Department contained over 90 per cent. of the total attendance, and the Manual Department less than 10 per cent. Thus had the oral method, in a competitive trial of nineteen years, 1881 to 1899, inclusive, forced itself to the front by sheer force of merit.

During this long period of trial, extending over almost twenty years, there were cases of apparent oral failure; and in such instances the authorities of the school always stood ready to transfer to the Manual Department, in the hope that its supposed superior merits, as a means of instruction, might do for such pupils what the oral method seemed incapable of accomplishing. I have some striking statistics to submit on this point: From 1881, when separate oral instruction was introduced, to 1899, there were received into the school 1,130 pupils, of whom 671 were placed under oral instruction and 459 under manual. Of these 671 oral pupils 71 failed to make satisfactory progress under that form of instruction, and were transferred to the Manual Department for instruction under manual methods. In other words, of the large number of pupils orally taught during this period, but 10½ per cent. were regarded as failures. But were these failures owing to the method of instruction pursued, or were they rather the result of inferior mental powers on the part of the pupils themselves? Their history under manual instruction must answer the question. And when I say that of these seventy-one pupils transferred from the Oral to the Manual Department during these nineteen years, but three, less than 5 per cent., attained even average success under

manual methods, it seems to me the answer that it was not the method, but the mental condition of the pupils that was at fault, is at once conclusive and complete.

But let me apply this failure test to the work of the Oral Department when it was more fully organized, say from 1892 to 1899, inclusive. During this period there were received into the Institution 516 pupils, of whom 493 were placed under oral instruction and 23 under manual. Under instruction, but 20 of these pupils have been regarded as failures, and transferred from the Oral Department to the Manual. That is, in a period of eight years, with a total of 493 pupils placed under oral instruction, the percentage of failure is not quite $4\frac{1}{4}$; and to-day, with a total of 500 pupils under instruction, 452 orally and 48 manually, there are but 14 oral failures in the school—under 3 per cent. of the total attendance.

With such experiences as these, covering a period of almost twenty years, I am forced to conclude that "when a deaf child cannot be educated by the application of proper oral methods, it is useless to hope for any marked success under any method." And after a most careful comparative examination of the relative merits of oral and manual methods of teaching the deaf, extending over this long period, and including almost every phase and variety of such methods of instruction, I fully believe that proper oral methods, by which I mean the use of speech and speech-reading, writing, pictures, and the free use of books, are fully adequate to the best education of the deaf.

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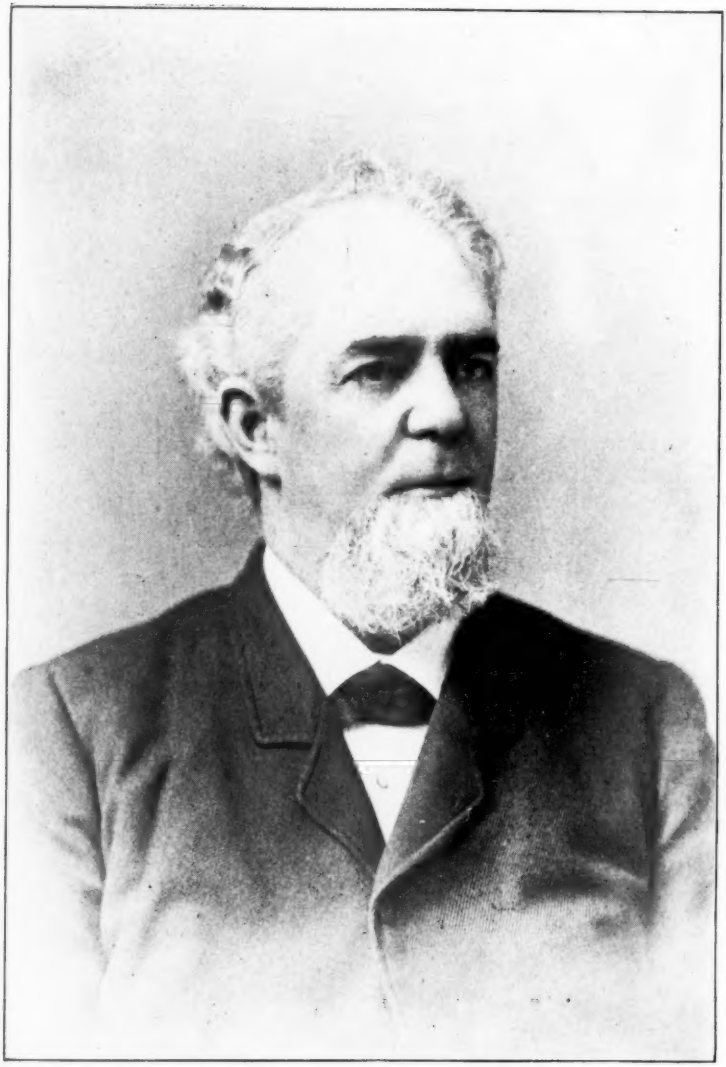

WILLIAM R. BARRY.

WILLIAM R. BARRY.

Mr. William R. Barry, President of the Board of Visitors of the Maryland School for the Deaf, died August 12, 1900. As his interest in the work for the deaf and his acquaintance among workers was not confined to State lines, it seems proper to present to the readers of the *Annals* a sketch of his life and work.

Mr. Barry became a member of the Board of Visitors of the Maryland School in 1869, the second year of its active work, and held this position to the time of his death. Members of this Board are appointed for life, serving without pay. It has numbered in its membership many of the leading bankers, lawyers, and business men of the State. From the time of his appointment Mr. Barry became a prominent factor in the work of the Board. His interest in this line of work was due to the fact that his only child was deaf.

Previous to his appointment he had visited various schools to learn what he could of methods and of the possibilities of deaf-mute instruction, and thus came to the duties of his new position with a good degree of preparation; and being a successful business man of practical experience and sound judgment, he was early and always deferred to by his fellow members.

He was early made a member of the Executive Committee and retained this position through various changes in its *personnel* to the end of his thirty-one years of service.

The school had been opened in soldiers' barracks left from prerevolutionary times, but in 1870 the erection of suitable buildings was begun. Mr. Barry, as a member of the building committee, contributed largely to the success of this enterprise. He was alive to the interests of the school in every direction, and did perhaps more

than any other man in or out of the Board to awaken public interest and secure needed support. He also gave much time and effort to reach families having deaf-mute children to set before them the purposes and the advantages of the school. To his constant, untiring labors much of its success is due.

No one was more familiar than he with the conditions and workings of the school. He was a frequent visitor, coming often in the intervals between the meetings of the Board, bringing many times persons of prominence whom he desired to interest. He spent considerable time in the classrooms and knew every pupil. He was frequently present on holidays, entering with zest into the amusements of the pupils, and always warmly welcomed by them.

For about thirty years Mr. Barry acted as city agent for the deaf, under appointment of the Mayor and Council of Baltimore. For this service he received no compensation. In this capacity he made the acquaintance of all families in the city of which he could learn, in which there were deaf children. Indigent pupils were assisted, sometimes from a small fund provided by the city, and sometimes from his own means. He thus came to know the home life and surroundings of a great many children, and was regarded by the parents as a friend and counsellor.

His interest followed the graduates in their after-life, and many are indebted to him for friendly counsel and assistance. At gatherings of the adult deaf Mr. Barry's presence was always looked for with great interest. The feeling of the deaf towards him is best told by an expression used in several letters received by the writer shortly after his death: "We have lost our best friend."

A scheme which Mr. Barry had very much at heart was the securing of a property in Baltimore, where an assem-

bly hall and reading rooms for the society of the deaf could be established. Though this effort did not succeed, it may be that the seed which he sowed will by and by bear fruit. A hall to bear his name would be a well-deserved honor, and it is an object for which the deaf and their friends may well labor.

Mr. Barry was elected Vice-President of the Board in June, 1883, and on the death of Mr. Enoch Pratt was chosen President in January, 1897, and was re-elected at each of the following annual meetings.

Mr. Barry was a native of Baltimore, where his whole life was spent. He was bred to mercantile pursuits, and was for some years the head of the firm of Barry & Cook, a large wholesale hardware company. For the last twenty-one years he was President of the Maryland Fire Insurance Company, and one of the most prominent men in insurance circles. He was also at one time President of the Board of Insurance Underwriters and was one of the managers of the association known as the Salvage Corps.

Mr. Barry was a man of deeply religious character, prominent in church and other good works. From youth he gave a fixed amount of his income to church and benevolent purposes. He was one of the founders of Chatsworth Independent Methodist Church of Baltimore, a liberal giver, and staunch supporter to the end of his life. For a long period of years he was its Sunday-school superintendent.

Mr. Barry was one of the organizers of the Baltimore Society for the Prevention of Cruelty to Children, and for some time held the office of President. He was also President of the Henry Watson Children's Aid Society of Baltimore, one of the objects of which is "to provide homeless children with real homes." He was also one of the Directors of the Maryland Colored School for the Blind and the Deaf from its inception.

Mr. Barry was a man of deep sympathies, untiring in

his labors of benevolence, modest and unassuming to such a degree that few, if any, knew to what extent his time and thought were drawn upon by those seeking counsel or substantial aid for themselves or others. In his office and at his home he was always ready to give a patient hearing.

Unfailing courtesy, sincerity, and kindness were marked characteristics. The pathetic and the humorous side of life appealed to him with almost equal force, a combination rare but fortunate in one devoted to benevolent work.

As we have said his interest in the young did not cease when they passed into adult life. The Rev. Dr. McDowell, who, as a boy, had known Mr. Barry and had grown up under his influence, said of him in his address at the funeral: "Gentle—as genial as sunlight. A warm hand with the breath of kindness ever going out from it. If the young men of this city to-day or elsewhere in our land whom he served could stand up together, they would form a goodly company. If the young girls for whom he obtained positions and whose interest he served could be mustered here this afternoon, they would, perhaps, make as large a gathering as that which is here."

Mr. Barry passed away in his seventy-third year; a long life filled with service to his fellow-men. Such men do not die, but in the influence of their characters and good works live on and on.

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THE CONVENTION OF THE ASSOCIATION OF GERMAN TEACHERS OF THE DEAF AT HAMBURG, 1890.

THE Convention of the Association of German Teachers of the Deaf took place at Hamburg, September 30 to October 3, 1890. The business committee, consisting of Messrs. Walther, Gutzmann, Weise, Arendt, and Knothe, had sent out invitations not only to members of the Association, but also to teachers of the deaf in general, to the authorities, to otologists, and to all friends and patrons of deaf-mute education.

As a result the attendance at the Convention reached nearly four hundred. Mr. SÖDER, Director of the Hamburg School, was elected chairman of the Convention. In his address of welcome Mr. Söder called attention to the manifold blessings the parting century had bestowed upon the deaf. At its beginning there were but four schools for the deaf in Germany. Now there were nearly one hundred, with 6,500 pupils under the instruction of 700 teachers.

The actual business of the Convention was opened with an exhaustive paper on "The Place of Writing in the School for the Deaf," by Mr. E. GÖPFERT, of Leipsic. Mr. Göpfert presented the following five theses :

1. Writing is the form of verbal language most easily learned by the deaf, most accurately grasped, and, therefore, most easily understood.

2. The language instruction of the deaf should proceed from the written form of verbal language with a constant application of the principle of observation.

3. Instruction in speech should at once be associated with the instruction in language based upon the written form. This instruction should then become instruction in reading, and should proceed as far as possible from

easily explained sound combinations (normal words in the articulation course) selected according to phonetic considerations. Lip-reading should be practiced, and free articulation employed according to the command of language acquired and reading in speech attained. Speech should, by degrees, be made the preponderating means of instruction.

4. In addition to their general employment and drill in all the classes and school hours, correct articulation and lip-reading should also be made the subject of special lessons, and be regarded as independent objects of instruction.

5. The lesson text should furnish the basis for the presentation of every new object of instruction.*

Immediately after the delivery of this paper, Mr. VATTER, Director of the School at Frankfort-on-the-Main, presented another upon the same subject. It was capitulated under eight heads, as follows:

1. The aim of the school for the deaf is to bring its pupils to a correct understanding and use of verbal language in its oral and written form. But more important than the *dress* of language is its *contents*.

2. Instruction should begin with the concrete form of language, as without a certain command of the same there can be no intellectual communication by means of verbal language. In this we may proceed from sounds and sound words, or from written symbols and written words.

3. To begin with reading and writing and to base the instruction upon writing cannot at all, or at best but imperfectly, secure the advantage for intellectual development and successful instruction that is claimed, as by this means only the comprehension and application of the external form of verbal language is made easier, with

* A fuller statement of Mr. Göpfert's views may be found in his "Place of Writing in the Language Instruction of True Deaf-Mutes, Especially the Less Intelligent," published in the *Annals*, vol. xliv, pp. 92-110.

a temporary avoidance of the difficulties presented by articulation and lip-reading. Mental development and the comprehension of logical sequences, and, later, correct speech and lip-reading are not facilitated.

4. The prime obstacles to be surmounted by the deaf in the acquisition of verbal language do not lie in its exterior form, but in its contents, not in its external comprehension and application, but in its internal assimilation as an intellectual possession.

5. To base instruction upon writing, even in the very first stages, is inimical to the success and existence of the oral method, as

a. The drill in lip-reading and articulation, for which the lessons offer the richest field, is contracted.

b. The only guarantees that oral speech shall enter into the closest possible relation with the intellectual being of the deaf (that it should become an organic intellectual activity), namely, immediate speech-association, and the earliest possible ability and habit of speech are abandoned.

c. An immediate communication of individual with individual by means of writing is impossible, and, as this cannot be dispensed with, the teacher is placed in constant danger of resorting to gestures or the manual alphabet.

6. If the aim of the oral method is to be sustained, articulation and speech-reading should, from physiological and practical considerations, be placed in the foreground from the first, and the pupil should as early as possible be made both able and willing to communicate orally, by basing the instruction upon the oral form of verbal language.

7. *a.* Reading and writing must not be neglected, for writing at all stages of instruction may render valuable service in the comprehension of sound-combinations that are read from the lips with difficulty, and in assimilating the lesson.

b. The more the spoken form of the word is made the medium of thought, the more may the objections to a predominance of the written form be withdrawn.

c. In the higher stages of instruction the pupils should be led to form the habit of independent reading.

8. In the higher stages, where children are abnormal either mentally or physically (weak eyes, deformed organs of speech, etc.), that method should be employed that promises the best results, whether it be the oral or the written form of language.

In the debate upon these two papers the opinion on the one hand seemed to be that both the oral and written method pursue the same object, but proceed from very different assumptions; that the force of habit is predominant in the child, and therefore it is inexpedient to proceed from written language; if the deaf-mute is to be trained for intercourse with his fellow men, the oral method only should be employed; for the abnormal, however, a limit must be set, as they cannot follow the oral method. On the other side it was maintained that written language was the most favorable means of development of the young mind; that while much was said of the incapacity of the deaf, this incapacity consisted merely of his deafness and of nothing else.

Most of the speakers were in favor of retaining the oral method, and after a prolonged discussion the tenets of Mr. Vatter were adopted.

Tuesday, October 2, was devoted to the reading and discussion of two papers by Messrs. F. HOLLER, of Gerlachsheim, and G. WENDE, of Liegnitz, on "Language instruction through the ear, and its introduction into schools for the deaf."

Mr. Holler presented his paper under twelve headings, agreeing in the main with the views presented and adopted at the Convention of the Society of German Otologists in 1899 (see the *Annals*, vol. xlv, pp. 145–155). He rec-

ommended, among other things, that in order to make aural instruction efficient, the negative influence of the totally deaf upon the language of the auricular pupils should be removed; that in the larger schools those pupils capable of auricular training should be taught in separate classes; that drill in lip-reading should not be neglected because of auricular instruction; that to achieve complete success with the auricular classes their complete separation from the totally deaf is necessary; and that special schools should be established for deaf-mutes capable of instruction through the ear.

Mr. Wende pointed out that German teachers in the past had generally taken advantage of any remnant of hearing that might have been left to their pupils, and that as long as the question of expense rendered the establishment of separate schools, or even classes for the partially deaf inexpedient, the means and methods hitherto employed should still continue in vogue. Even with separate schools and classes, there should be no talk of a "new" method of deaf-mute instruction, as with lip-reading given the same importance as before, there could be no radical departure from the method generally employed in the schools for the deaf.

Both gentlemen handled the subject so exhaustively that there was little room left for discussion, but the more conservative views of Mr. Wende were ultimately adopted. It was pointed out that a compulsory educational law for the deaf was a prime necessity, and that such a law existed at present only in Sleswick-Holstein; that otologists should make a more thorough study of the infirmity of the deaf, and that a closer alliance of this special branch of medical science with the schools for the deaf was highly desirable. Emphasis was laid upon the circumstance that there was no thought at all of introducing a "new method."

The social features of the Convention were eminently

successful. The afternoon of the first day was devoted to a banquet. The next day there was a pilgrimage of the entire congress to Eppendorf, a suburb of Hamburg, to do homage before the monument of Heinicke, the great apostle of German deaf-mute education. Here they reiterated their allegiance to the German method, and gloried in the triumphs it had achieved abroad, especially in the land of De l'Épée. The evening was devoted to a "*Kommers*," where the entire four hundred sat down to a feast of reason and a flow of bowl.

Wednesday was given to a visit to the Hamburg School for the deaf. Later the great wharves in the harbor were inspected and admired, and an ocean greyhound boarded and held for the nonce. An excursion by steamer was then taken to the resort Blankenese, where the rest of the day was spent.

An excursion to Heligoland, planned for Thursday, had to be abandoned owing to the expense, and instead a trip was made to Kiel to view the great canal.

The Convention must be characterized, judging from the reports, as successful in all its aspects. One especially commendable feature was the sort of joint debate on leading questions of the day by champions of differing views, as in the case of Messrs. Göpfert and Vatter, and Messrs. Holler and Wende, and the publication months beforehand in the *Organ* of the particular theses or tenets held by each contestant. Such a feature introduced into our American Conventions might result in some extremely interesting sessions.

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DEAF COLLEGIANS SUPERIOR ATHLETES.

A VERY useful factor in the work of Gallaudet College is a well-equipped gymnasium, which was opened in 1881 and was provided with apparatus under the direction of Dr. Dudley A. Sargent, Director of the Hemenway Gymnasium at Harvard University. The instructor in charge is an alumnus of the College, and a number of the graduates have readily secured positions as gymnasium instructors in schools for the deaf. Highly creditable gymnastic exhibitions are given annually, and the thorough and conscientious training which the students receive in the gymnasium has been no slight element in the success of Gallaudet athletes.

Gallaudet College has only had from forty to sixty-five male students to pick from, yet in the field-day meets, which have been held with the surrounding colleges, especially in those of the Intercollegiate Association of Colleges of Maryland and the District of Columbia, her career has been a noteworthy one. This Association was composed of Johns Hopkins University, Western Maryland College, St. Johns College of Annapolis, Maryland Agricultural College, and Gallaudet College. Some of the colleges pitted against the College for the deaf have had several hundred men from which to select, and all of her opponents have been much superior in point of numbers, yet the Gallaudet athletes have come out victorious again and again, and in 1899 they carried off the championship banner of the Intercollegiate Association.

The reasons for the superiority which the representatives of the deaf students have shown in their contests of brawn with their hearing competitors from the neighboring colleges are not far to seek. No doubt the loss of the sense of hearing tends to make the Gallaudet athletes concentrate their minds and attention more thoroughly

upon the progress of the game in which they are engaged, and it is also evident how their entire dependence upon the sense of sight would cause them to be keener and more observing to take advantage of any opening which the game affords.

The story of Gallaudet's work on the diamond is worthy of special mention. She has had some of the most famous base-ball men in the country as her opponents, among whom may be named George Wright, unsurpassed as a short-stop, N. E. Young, who has been secretary of the National League since its organization, and Paul Hines, long a leading batter and centre fielder in the National League. Although Gallaudet has no base-ball cage, and her ball nine has never enjoyed the advantages of winter training or professional coaches, she won the base-ball championship in the Intercollegiate Association in 1899.

In April, 1900, Gallaudet entered a track team in the relay races in the athletic carnival held at Philadelphia under the auspices of the University of Pennsylvania. In this event Gallaudet found herself classed with such institutions as Columbian University, the University of Maryland, Johns Hopkins, Lehigh University, Villanova College, and St. Johns College of Annapolis. In spite of the tremendous odds, the fleet representatives of the College for the deaf led the field in the first and second quarters and came out fourth best at the end of the race, distancing Lehigh and the University of Maryland. The Columbian University team did not compete.

The Gallaudet young ladies' basket-ball team has such a reputation for skilful playing in Washington that it is very difficult for the manager to secure any games with the local young ladies' teams.

The most brilliant chapter in the athletic prowess of Gallaudet, that of foot-ball, is still to be recorded. With its small number of students, with no professional trainers, with no special training table, with a line very often lighter

by many pounds on the average than those of its opponents, and notwithstanding the drawback of deafness, Gallaudet has met and vanquished some of the strongest college elevens in the South. During the season of 1899, her record was so remarkable that she justly claimed the Southern championship honors in foot-ball. She defeated the University of Virginia on the grounds of the latter by a score of 11 to 5. Georgetown University, Gallaudet's most formidable rival, was unable to score against the University of Virginia. Gallaudet beat the University of Maryland 42 to 0, while Georgetown later defeated the same team by the comparatively low score of 17 to 0.

Washington College was easily disposed of by Gallaudet, and St. John's College was beaten at Annapolis by Gallaudet. On muddy grounds, at Georgetown field, Georgetown defeated Gallaudet 5 to 0. All efforts to get a return game with Georgetown, to be played at Kendall Green, proved unavailing, but some days later the second eleven of Gallaudet beat an eleven made up of the first and second elevens of Georgetown 6 to 0, on the grounds of the latter. In 1900 the game between Georgetown and Gallaudet resulted in a tie. In all these games the Georgetown line was much the heavier of the two, but Gallaudet's science and pluck were usually more than a match for the extra avoirdupois of her opponents.

Team-work and an excellent second eleven have been essential factors in the success of the first eleven of Gallaudet. The enthusiastic college spirit of the students is shown by the fact that a second eleven has existed at the College since 1884, when there were but forty students in attendance. Many colleges with a much more numerous membership than Gallaudet find it quite difficult to get out more than one eleven for practice.

In the foot-ball season of 1898, Gallaudet defeated Johns Hopkins at Baltimore and Mt. St. Mary's College. For a college like Gallaudet to win game after game from colleges

and universities whose numerical strength is so far superior is in itself no slight distinction, but when we take into consideration the added handicap (if it is a handicap) of deafness, her achievements strike one as little short of marvellous. Judging from Gallaudet's record, it seems as if there were something about deafness which makes its possession an advantage instead of an obstacle in sports of this kind. When the signals are given each man has to look at the quarter-back, which distracts his attention at a most important moment from what is going on in the line in front of him, and this is obviously a serious disadvantage. The signals are given in numbers, as is the case with other elevens, except that the numbers are signed instead of spoken, and sometimes signs of animals, fruits, and vegetables are used in this connection. There is no danger of the opposing eleven learning the Gallaudet signals.

The games are characterized by the absence of wordy disagreements, and the Gallaudet College players are well known for their gentlemanly conduct on the foot-ball field. Contrary to what might be expected, the games at Kendall Green are not carried on more quietly than any other college games. The partisans of the opposing eleven are often astonished by the well-trained Gallaudet "rooters" giving their college yells in perfect time with the beat of the baton wielded by one of the deaf college students. This cheer is used for the encouragement of the team during a struggle:

Zip, boom, bah!
Rah, rah, rah!
Git there, get,
Gal-lau-det!

And this as a pæan of victory:

Wah, hoo, wah!
Hoo, wah, hoo!
Rah, rah, rah!
Buff and blue.

These yells do not necessarily fall unheeded on deaf ears, for it must be borne in mind that various degrees of hearing exist among the players and students.

Says Professor Amos G. Draper, a member of the Gallaudet faculty: "There is something about foot-ball that seems to accord peculiarly with the constitution of the deaf in mental and moral, as well as in physical matters. Their eyes are quicker; their habits of life purer, and their systems of signalling by signs far more effective than are these characteristics among their hearing competitors; beyond this, they have shown a dash, a fertility of resource, a courage, persistency, and good-natured combativeness, that have won for them deserved and unbounded applause.

"The first game of foot-ball played in the District of Columbia was played on Gallaudet's grounds in 1880, and from that first game the College has never lacked an excellent team and its best ones have been remarkable. The experts of one year have handed down their lore to the next."

It is undoubtedly true that no college in the country of the size of Gallaudet can point to such a record on the foot-ball field. "Their success in their battles on the grid-iron forecasts their successes in the battle of life, wherein grit and determination, allied with tact and ability, form the winning combination."

EDWARD P. CLARKE,
Instructor in the New York Institution,
Washington Heights, New York City.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900–01.

A.—PUBLIC SCHOOLS (NOT INCLUDING DAY-SCHOOLS) IN THE UNITED STATES.

	Name.	Location.	Date of opening.	Chief Executive Officer.
1	American School for the Deaf	Hartford, Conn	1817	Job Williams, M. A., L. H. D., Principal.
2	New York Institution for the Instruction of the Deaf and Dumb	New York, N. Y. (*a*)	1818	Enoch Henry Currier, M. A., do.
3	Pennsylvania Institution for the Deaf and Dumb	Mt. Airy, Philadelphia, Pa	1820	A. L. E. Crouter, M. A., LL. D., Sup't.
4	Kentucky Institution for the Education of Deaf-Mutes	Danville, Boyle Co., Ky	1823	Augustus Rogers, M. A., Sup't.
5	Ohio Institution for the Education of the Deaf and Dumb	Columbus, Ohio	1829	J. W. Jones, B. S., do.
6	Virginia School for the Deaf and the Blind	Staunton, Va	1839	William A. Bowles, do.
7	Indiana Institution for the Education of the Deaf and Dumb	Indianapolis, Ind	1844	Richard Otto Johnson, do.
8	Tennessee Deaf and Dumb School	Knoxville, Tenn	1845	Thomas L. Moses, Principal.
9	North Carolina Institution for Education of the Deaf and Dumb and the Blind	Raleigh, N. C	1845	John E. Ray, M. A., Principal.
10	Illinois Institution for the Education of the Deaf and Dumb	Jacksonville, Ill	1846	Joseph C. Gordon, M. A., Ph. D., Sup't.
11	Georgia School for the Deaf	Cave Spring, Ga	1846	Wesley O. Connor, Principal.
12	South Carolina Institution for the Education of the Deaf and the Blind	Cedar Spring, S. C	1849	Newton F. Walker, Superintendent.
13	Missouri School for the Deaf	Fulton, Callaway Co, Mo	1851	Noble B. McKee, M. A., do.
14	Louisiana Institution for the Education of the Deaf and Dumb	Baton Rouge, La	1852	John Jastremski, M. D., do.
15	Wisconsin School for the Deaf	Delavan, Walworth Co., Wis	1852	John W. Swiler, M. A., do.
16	Michigan School for the Deaf	Flint, Mich	1854	Francis D. Clarke, M. A., C.E., do.
17	Mississippi Institution for the Education of the Deaf and Dumb	Jackson, Miss	1854	J. R. Dobyns, M. A., do.
18	Iowa School for the Deaf	Council Bluffs, Iowa	1855	Henry W. Rothert, Superintendent.
19	Texas Deaf and Dumb Asylum	Austin, Texas	1857	B. F. McNulty, Superintendent.
20	Columbia Institution for the Deaf and Dumb	Kendall Green, Washington, D. C	1857	E. M. Gallaudet, Ph. D., LL. D., Pres't.
	A. Kendall School for the Deaf	do	1857	James Denison, M. A., Principal.
	B. Gallaudet College	do	1864	E. M. Gallaudet, Ph. D., LL. D., Pres't.
21	Alabama School for the Deaf	Talladega, Ala	1858	Joseph H. Johnson, M. A., Principal.
22	California Institution for the Deaf and the Blind	Berkeley, Alameda Co., Cal	1860	Warring Wilkinson, M. A., L. H. D., do.
23	Kansas School for the Deaf	Olathe, Kansas	1861	Henry C. Hammond, M. A., Sup't.
24	Le Couteulx St. Mary's Inst'n for the Improved Instruction of Deaf-Mutes	Buffalo, N. Y. (2253 Main St.)	1861	Sister Mary Anne Burke, Principal.
25	Minnesota School for the Deaf	Faribault, Rice Co., Minn	1863	James N. Tate, M. A, Sup't.
26	New York Institution for the Improved Instruction of Deaf-Mutes	New York, N. Y. (904–922 Lexington Av.)	1867	Elbert A. Gruver, M. A., Sup't.
27	Clarke School for the Deaf	Northampton, Mass	1867	Miss Caroline A. Yale, LL. D., Principal.
28	Arkansas Deaf-Mute Institute	Little Rock, Ark	1868	Frank B. Yates, Superintendent.
29	Maryland School for the Deaf and Dumb	Frederick City, Md	1868	Chas. W. Ely, M. A., Principal.

30	Nebraska Institute for the Deaf and Dumb	Omaha, Neb	1869	H. E. Dawes, M. A., Superintendent.
31	St. Joseph's Institute for the Improved Instruction of Deaf-Mutes	Fordham, N. Y. (*b*)	1869	Ellen E. Cloak, Superintendent.
32	West Virginia Schools for the Deaf and the Blind	Romney, Hampshire Co., W. Va	1870	James T. Rucker, Principal.
33	Mystic Oral School for the Deaf	Mystic, Conn	1870	Miss Alice H. Damon, Principal.
34	Oregon School for Deaf-Mutes	Salem, Oregon	1870	Clayton Wentz, M. A., Sup't.
35	Maryland School for the Colored Blind and Deaf	Baltimore, Md. (649 W. Saratoga St.)	1872	{Frederick D. Morrison, M. A., Sup't. {John F. Bledsoe, M. A., Res't Prin.
36	Colorado School for the Deaf and the Blind	Colorado Springs, El Paso Co., Colo	1874	W. K. Argo, M. A., Sup't.
37	Central New York Institution for Deaf-Mutes	Rome, Oneida Co., N. Y	1875	Edward Beverly Nelson, M.A., Principal.
38	Western Pennsylvania Institution for the Instruction of the Deaf and Dumb	Edgewood Park, Allegheny Co., Pa	1876	William N. Burt, M. A., Principal.
39	Western New York Institution for Deaf-Mutes	Rochester, N. Y. (945 N. St. Paul St.)	1876	Z. F. Westervelt, LL. D., Sup't & Prin.
40	Maine School for the Deaf	Portland, Me. (79-85 Spring St.)	1876	Miss Elizabeth R. Taylor, Principal.
41	Rhode Island Institute for the Deaf	Providence, R. I. (520 Hope St.)	1876	Miss Laura DeL. Richards, Principal.
42	New England Industrial School for Deaf-Mutes	Beverly, Mass.	1879	Miss Nellie H. Swett, do.
43	South Dakota School for Deaf-Mutes	Sioux Falls, Minnehaha Co., South Dak.	1880	James Simpson, Superintendent.
44	Pennsylvania Oral School for the Deaf	Scranton, Pa	1883	Miss Mary B. C. Brown, Principal.
45	New Jersey School for the Deaf	Trenton, N. J	1883	John P. Walker, M. A., Superintendent.
46	Utah State School for the Deaf and Dumb	Ogden, Utah	1884	Frank W. Metcalf, D. B., Sup't.
47	Northern New York Institution for Deaf-Mutes	Malone, Franklin Co., N. Y	1884	Edward C. Rider, Superintendent.
48	Florida State School for the Blind and the Deaf	St. Augustine, Fla.	1885	William B. Hare, Superintendent.
49	New Mexico Asylum for the Deaf and the Dumb	Santa Fé, N. M.	1885	Lars M. Larson, B. A., Superintendent.
50	Washington School for Defective Youth	Vancouver, Wash	1886	James Watson, Director.
51	Deaf, Dumb, and Blind Institute for Colored Youth	Austin, Tex	1887	S. J. Jenkins, Superintendent.
52	Albany Home School for the Oral Instruction of the Deaf	Pine Hills, Albany, N. Y	1889	Miss Mary McGuire, Prin. and Sup't.
53	Deaf and Dumb Asylum (of North Dakota)	Devils Lake, Ramsey Co., North Dak	1890	Dwight F. Bangs, Sup't.
54	Home for the Training in Speech of Deaf Children before they are of School Age	Philadelphia, Pa. (*c*)	1892	Miss Mary S. Garrett, Principal.
55	Montana School for Deaf and Blind	Boulder, Montana	1894	Thos. S. McAloney, Sup't.
56	North Carolina School for the Deaf and Dumb	Morganton, Burke Co., N. C	1894	E. McKay Goodwin, M. A., Sup't.
57	Oklahoma Institute for the Deaf and Dumb	Guthrie, Oklahoma	1898	H. C. Beamer, Contractor and Sup't.
57	Public Schools (not including Day-Schools).			
44	Public Day-Schools. (Seq page 90.)			
14	Denominational and Private Schools. (See page 96.)			
115	Schools in the United States.			

(*a*) Washington Heights, 163d Street and Broadway. (*b*) This Institution has three branches; one situated at Westchester, another at Fordham (772 East 188th Street), and another at Brooklyn (113 Buffalo Ave.).

(*c*) Belmont Ave., cor. Monument Ave.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900-'01—Continued.

PUBLIC SCHOOLS (NOT INCLUDING DAY-SCHOOLS) IN THE UNITED STATES—Continued.

	Name.	Methods of Instruction.*	Industries Taught. (*d*)	NO. OF PUPILS.								PRESENT NUMBER OF INSTRUCTORS.					
				Within the year 1900.**	PRESENT NOVEMBER 10, 1900.												
					Total.	Male.	Female.	Taught Speech.†			Total have received instr'n.	Total.††	Male.††	Female.††	Deaf.	Articul'n.‡	Industrial.
								A.†	B.†	C.†							
1	American School	Combined	Cab., Dra., Dr., Sc	174	159	105	54	126	.....	.....	2,736	22	7	15	3	7	4
2	New York Institution	Combined	Art, Bak., Cab., Car., Ch., Dr., Ga., Gl., Hor., Pa., Pr., Ta., Ty., Wc.	476	417	262	155	4.7	221	27	3,850	45	18	27	3	24	14
3	Pennsylvania, ...do..	Oral Manual do	Bak., Bk., Car., Ck., Dra., Dr., Gl., Ir., Mi., Pa., Pl., Pr., Sh., Sl., St., Ta.	517 48	470 30	252 20	218 10	470	470	... ...	2,950	68	15	53	5	52	12
4	Kentucky Institution	Combined	Car., Ga., Pr., Se., Sh., Ta	414	343	190	153	173	111	7	1,532	33	14	19	9	9	7
5	Ohio Institution	Combined	Art, Ba., Bo., Car., Ck., Dr., Em., Pa., Pr., Sh., Ta.	571	513	281	232	239	226	13	3,072	47	13	34	11	20	6
6	Virginia Institution	Combined	Bar., Car., Ir., Pr., Sh., Ta	169	150	88	62	28	12	.....	.....	20	10	10	3	2	6
7	Indiana Institution	Combined	Bak., Cab., Car., Cl., Dr., Fa., Fl., Ha., Pa., Pr., Se., Sh., Wc., Wt.	384	316	187	129	146	98	.....	2,239	31	16	15	8	8	5
8	Tennessee School	Combined	Car., Pr., Sh	276	231	131	100	95	35	... ...	1,050	15	7	8	3	3	2
9	North Carolina Institution	Combined	Ga., Se., Sh	100	78	43	35	12	12	.....	1,232	9	5	4	4	1	3
10	Illinois Instit'n (*a*)	Oral Dep't. Manual do. Man. Alph.	Art, Bak., Cab., Cal., Car., Ck., Dr., Dra., Ga., Gl., Ho., Hor., Ir., Pa., Ph., Pr., Se., Sh., Wc., Wt., Ww.	613	285 240	171 131	114 109	285 240	285	... ...	2,892	37 55 33	12 19 18	25 36 15	5 15 15	21 28 15	10
11	Georgia School (*a*)	Combined	Bl., Car., Cl., Dra., Ga., Pa., Pr., Sh., Wc.	206	184	92	92	34	34	.....	805	16	9	7	4	3	5
12	South Carolina Institution	Combined	Cab., Ch., Dra., Fan., Ho., Ir., Pa., Pr., Se., Sh., Wc.	136	117	60	57	34	34	.....	419	14	7	7	8	4	6
13	Missouri School	Combined	Ba., Bar., Bl., Cab., Car., Dr., Ga., Pr., Se., Sh., Ta., Wc., Wt.	387	325	203	122	65	65	.....	1,616	37	19	18	8	6	10
14	Louisiana School	Combined	Car., Pr., Se., Sh.	131	114	59	55	46	... .	.....	.....	13	7	6	6	4	4
15	Wisconsin School	Combined	Bak., Cab., Ck., Dr., Man., Pr., Sh..	217	200	112	88	121	121	.....	1,203	24	13	11	4	10	6
16	Michigan School	Combined	Cab., Car., Dr., Ha., Mi., Pe., Pr., Sh., Ta.	465	403	232	171	242	140	.....	1,570	44	13	31	12	16	7
17	Mississippi Institution	Combined	Cab., Car., Pr	151	106	51	55	36	36	.....	.....	14	6	8	3	3	4
18	Iowa School	Combined	Bak., Br., Car., Ck., Dr., Pr., Sh., Ta.	313	253	139	114	66	66	.....	.....	27	13	14	5	5	7
19	Texas Asylum	Combined	Art, Car., Pa., Pr., Sc., Sh., Ta	380	344	195	149	163	163	... ..	825	30	15	15	6	12	7
20	Columbia Inst..	Kendall School Gallaudet Col..	Cab., Dr., Se.	57	52	30	22	40	.....	1	453	9	5	4	5	3	3
		Combined	None	134	114	78	36	69	.....	.....	601	18	13	5	4	13	.....
21	Alabama Institute	Combined	Bl., Cab., Pr., Sh	160	130	80	50	48	12	8	.....	15	8	7	3	4	5
22	California Institution	Combined	Pr., Wood-working	176	156	97	59	100	.....	.....	567	16	10	6	3	2	2
23	Kansas Institution	Combined	Ba., Bar., Cab., Ck., Dr., Ga., Ha., Pr., Sh.	280	244	119	125	86	40	.....	925	28	12	16	10	3	8
24	Le Couteulx St. Mary's Inst.	Combined	Ck., Dr., Pr., Sh., Ta., Wc.	190	169	90	79	155	8	6	727	22	2	20	3	14	6
25	Minnesota School	Combined	Ba., Cab., Car., Ck., Dr., Pr., Sh.	241	238	136	102	68	68	.....	874	27	11	16	6	6	8

26	N. Y. Institut'n for Imp'v'd Ins'n	Oral	Cab., Car., Ck., Dra., Dr., Gl., Ha., Pa., Se., Sl., Ta., Wi.	237	203	109	94	203	203	.....	782	29	7	22	1	20	7
27	Clarke School	Oral	Cab., Se., Sl., Wc.	162	150	81	69	150	150	.....	543	24	1	23	1	18	3
28	Arkansas Institute	Combined	Art, Bk., Cab., Cal., Car., Ce., Cg., Dr., Ga., Ha., Pa., Pap., Pl., Pr., Sh., Ta., Wc.	226	226	130	96	56	49	.....	.....	25	10	15	10	4	7
29	Maryland School	Combined	Cab., Car., Ch., Ck., Dr., Em., Gl., Pa., Pr., Sh., Wc., Wt.	112	97	54	43	72	47	4	499	17	6	11	4	4	6
30	Nebraska Institute	Combined	Art, Dr., Fa., Fl., Hor., Man., Pr., Se., Sh., Ty.	165	165	101	64	87	63	24	574	22	10	12	3	8	6
31	St. Joseph's Institute (N. Y.)	Combined	Art, Ba., Car., Ck., Dr., Fa., Fan., Ga., Ho., Pr., Sh., Se., Sl., Ta., Wc., Wt., Ww.	423	365	194	171	365	365	.....	1,150	48	8	40	2	36	12
32	West Virginia School	Combined	Cab., Car., Pr., Sh., Ta.	160	158	87	71	22	22	.....	600	17	11	6	4	2	4
33	Mystic Oral School	Oral	Art, Em., Fa., Ho., Se., Wc.	41	35	13	22	35	33	2	130	7	.....	7	.....	6	1
34	Oregon School	Combined	Pr.	75	60	30	30	33	17	.....	211	7	3	4	3	3	1
35	Md. School for Colored	Combined	Ch., Ck., Dr., Fan., Se., Sh.	44	37	22	15	15	15	.....	130	6	4	2	1	2	3
36	Colorado School	Combined	Art, Bak., Car., Ck., Dr., Pr., Se., Sh.	97	87	53	34	59	59	.....	289	14	6	8	3	6	4
37	Central N. Y. Institution	Combined	Car., Dr., Gl., Pr., Se., Sh., Wc.	144	129	64	65	48	.....	.....	476	17	9	8	7	1	5
38	Western Penna. Institution	Combined	Cab., Car., Dr., Pr., Sh.	208	175	87	88	95	95	.....	641	20	7	13	1	8	5
39	Western New York Inst'n	Man. Alph.	Cab., Car., Ck., Dr., En., Ga., Pa., Pr.	189	166	75	91	166	.....	.....	564	24	5	19	3	6	10
40	Maine School	Combined	Car., Ck., Dr., Pr., Sh.	96	89	55	34	84	.....	.....	196	13	1	12	1	8	4
41	Rhode Island Institute	Oral	Pr., Se., Sl.	68	63	36	27	63	63	.....	167	13	2	11	.....	9	3
42	N. E. Industrial School	Combined	None	23	23	10	13	14	.....	.....	75	3	.....	3	1	1	1
43	South Dakota School (*a*)	Combined	Car., Fa., Pr.	49	49	27	22	.....	.....	.....	157	6	3	3	3	1	4
44	Pennsylvania Oral School	Oral	Ch., Dr., Ho., Se., Sh., Ven., Wt.	87	73	25	48	73	73	.....	143	13	3	10	.....	10	3
45	New Jersey School	Combined	Car., Cp., Dr., Em., He., Mi., Pr., Sh., Sl., Wc.	152	133	72	61	51	64	.....	405	18	5	13	3	9	6
46	Utah School	Combined	Bl., Cab., Car., Fa., Gl., Ho., Pa., Pr., Se., Sh.	83	66	42	24	40	.....	.....	170	14	7	7	2	4	5
47	Northern New York Institution	Combined	Cab., Car., Dr., Pr., Sh., Ta.	91	80	44	36	80	.....	8	.....	14	3	11	.....	9	4
48	Florida School (*a*)	Combined	Car., Ph., Pr.	60	33	16	17	15	.....	.....	150	10	4	6	1	2	3
49	New Mexico School	Manual	None	11	9	8	1	.....	.....	.....	35	1	1	.....	1	.....	.....
50	Washington State School	Combined	Dr., Pr., Sh.	90	71	36	35	36	.....	.....	180	10	7	3	.....	1	4
51	Texas Institute for Colored (*a*)	Manual	Dr., Sh.	44	44	25	19	3	.....	.....	95	4	1	3	.....	.....	2
52	Albany Home School (*a*)	Oral	Cl., Se.	26	24	16	8	24	22	2	.....	5	.....	5	.....	4	1
53	North Dakota School	Combined	Bo., Pr	66	49	26	23	39	7	.....	105	7	3	4	3	3	1
54	Home for Training in Speech (*a*)	Oral	Ho., Man., Se.	60	60	32	28	60	60	.....	80	9	1	8	.....	6	1
55	Montana School	Combined	Fan., Man., Se., Ty.	28	27	14	13	16	11	.....	42	5	4	1	1	1	2
56	North Carolina School	Combined	Br., Car., Ck., Fa., Ga., Ma., Pr., Sh.	239	227	114	113	90	90	.....	366	25	7	18	4	10	5
57	Oklahoma Institute	Manual	None	62	50	24	26	5	.....	.....	69	4	1	3	1	1	.....
57	Public Schools			10,984	9,504	5,356	4,148	4,703	3,765	102	41,162	1150	427	723	218	445	280
44	Public Day-Schools (*b*)			848	708	386	322	680	602	2	1,437	124	10	114	5	92	37
14	Denom'l and Private Schools (*c*)			475	396	155	241	304	171	4	1,623	79	18	61	.....	51	26
115	Schools in the United States			12,307	10,608	5,897	4,711	5,687	4,538	108	44,222	1353	455	898	223	588	343

* See page 101. ** Including those who have left school during the year. † A = number taught speech, B = number taught wholly or chiefly by the Oral method. C = number taught wholly or chiefly by the Auricular method. †† Including the superintendent or principal and the teachers of industries. (In the Illinois Institution certain teachers teach in both departments; the total number of teachers and the number in each class are given in the middle line of the three lines of figures. In the summation of instructors only the middle line relating to the instructors of this Institution is counted.) ‡ Including those who teach speech and those who teach by speech, but not the teachers of industries. (*a*) For 1899-1900. (*b*) See page 93. (*c*) See page 97. (*d*) See page 102.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900–'01—Continued.

PUBLIC SCHOOLS (NOT INCLUDING DAY-SCHOOLS) IN THE UNITED STATES—Continued.

	Name.	Vacation.	How Supported.	Value of buildings and grounds.	Expenditure last fiscal year.		No. vols. in library.
					For suppo't.	For build'gs and gro'ds.	
1	American Asylum	Last Wed. in June to second Wed. in Sept	Endowment and N. E. States	$250,000			2,000
2	New York Institution	Second Tuesday in June to third Wed. in Sept.	State, counties, and pay pupils	526,000	$126,159	$8,222	7,971
3	Pennsylvania do	Last Wed. in June to second Wed. in Sept.	State endowment, and pay pupils	1,000,000	129,597	4,319	6,750
4	Kentucky do	Second Wed. in June to second Wed. in Sept	State	145,000	61,588	2,030	2,350
5	Ohio do	Second Wed. in June to second Wed. in Sept	do	850,000	102,000	10,000	3,000
6	Virginia do*	Second Wed. in June to first Wed. in Sept.	do	150,000	38,200	3,850	582
7	Indiana do	Second week in June to fourth week in Sept	do	535,685	65,717	3,991	3,363
8	Tennessee School	Third Wed. in June to second Fri. in Sept	do	185,000	34,500	7,500	1,000
9	North Carolina Institution*	Second Wed. in June to second Wed. in Sept	do	56,000	20,000	1,000	1,000
10	Illinois Institution†	Second Wed. in June to third Wed. in Sept.	do	672,875	95,210	5,462	
11	Georgia School†	Third Wed. in June to second Wed. in Sept	do	85,000	26,614		1,200
12	South Carolina Institution*	Last Wed. in June to first Wed. in Oct.	State and pay pupils	68,000	19,223	2,774	950
13	Missouri School	First Wed. in June to second Wed. in Sept	State	313,000	47,000	2,500	2,550
14	Louisiana do	June 1 to Oct. 1	do	300,000	18,500	1,000	400
15	Wisconsin School	Second Wed. in June to first Wed. in Sept.	do	130,000	39,810	1,000	2,400
16	Michigan do	Thurs. after June 7 to third Wed. in Sept.	do	494,405	83,363	57,971	4,178
17	Mississippi Institution	Third Wed. in June to first Mon. in Oct.	do	77,250	20,766	2,238	
18	Iowa School	June 30 to Oct. 1	do	400,000	60,000		3,000
19	Texas Asylum	Second Wed. in June to Second Wed. in Sept	do	326,000	55,000	26,000	900
20	Columbia Institution	Wed. before last Wed. June to Thurs. before last Thurs. Sept.	United States and pay pupils	700,000	71,295	3,000	4,510
21	Alabama do	June 10 to Sept. 10	State	100,000			500
22	California do*	Second Wed. in June to fourth Wed. in August	do	550,000	57,168		2,200
23	Kansas do	Second Wed. in June to second Wed. in Sept	do	250,000	48,000		2,200
24	Le Couteulx St. Mary's Inst	Wed. before last week in June to first Mon. in Sept.	State, counties, and pay pupils	234,000	32,876	6,760	808
25	Minnesota School	First Wed. in June to second Wed. in Sept	State	271,625	49,299		2,055
26	N. Y. Inst. for Imp'v'd Ins'n	Third Wed. in June to first Wed. in Sept	State, counties, and pay pupils	213,716	54,558	5,989	950
27	Clarke School	Forty weeks after third Mon. in Sept. to third Mon. in Sept.	Endowment, N. E. States, and pay pupils.	150,000	48,683	700	2,500

28	Arkansas Institute	Second Wed. in June to first Wed. in Oct.	State		47,265	10,000	
29	Maryland School	Third Wed. in June to second Wed. in Sept	...do	255,000	25,450		3,095
30	Nebraska Institute	Middle of June to middle of Sept	...do	200,000			1,600
31	St. Joseph's Institute (N. Y.)	Last Fri. in June to second Mon. in Sept	State, counties, and pay pupils	810,000	112,179	11,079	1,950
32	West Virginia School*	Forty weeks after second Wed. in Sept. to second Wed. in Sept.	State	150,000	37,500	20,000	500
33	Mystic Oral School	Twelve weeks	State and tuition fees				400
34	Oregon School	June 1 to Sept 20	State and tuition fees	30,000	12,000		260
35	Md. School for Colored*	June 25 to Sept. 10	State	30,000			
36	Colorado Institute	First Wed. in June to first Wed. in Sept	...do	223,000	26,000		650
37	Central N. Y. Institution	Second week in June to third Wed. in Sept.	State and counties	130,000	38,552		600
38	Western Penn'a Institution	Last Wed. in June to first Wed. in Sept	State and voluntary contributions	150,986	38,908	47,007	555
39	Western New York Institution	Forty-two w'ks after first Mon. in Sept. to first Mon. in Sept.	State, counties, and pay pupils	200,000	54,187	19,500	8,000
40	Maine School	Middle of June to second Mon. in Sept.	State	30,000	15,000		600
41	Rhode Island Institute	Third Fri. in June to second Mon. in Sept.	...do	86,000	20,000		170
42	N. E. Industrial School	Third Wed. in June to second Tues. in Sept	Voluntary contributions and State	15,000	4,000	500	
43	South Dakota School†	Second Wed. in June to second Wed. in Sept	State	81,675	12,250	4,500	185
44	Penna. Oral School	June 20 to Sept. 1	...do	147,500	18,573	361	150
45	New Jersey School	June 16 to Sept. 10	...do	150,000	40,000	3,000	2,500
46	Utah School*	Second Wed. in June to second Wed. in Sept	State and pay pupils	205,500	27,981	6,957	975
47	Northern N. Y. Institution	Second Wed. in June to second Wed. in Sept	State and counties	88,000	25,421		632
48	Florida School*†	June 1 to Oct. 1	State	18,000	10,797	2,500	250
49	New Mexico School	Last week in June to first week in Oct.	Territory				250
50	Washington State School*	Thurs. after last Wed. in May to last Wed. in Aug.	State				
51	Texas Institute for Colored*†	June 15 to Sept. 15	do	50,000	15,075		700
52	Albany Home School	Third Wed. in June to second Wed. in Sept	State, counties, and pay pupils				
53	North Dakota School	Second Wed. in June to second Wed. in Sept	State	42,370	15,465	15,945	400
54	Home for Training in Speech†	None.	State and pay pupils	42,000	10,514	4,481	350
55	Montana School*	Second Wed. in June to second Wed. in Sept	State	55,000	10,381	1,500	100
56	North Carolina School	Second Wed. in June to second Wed. in Sept.	...do	200,000	36,000	14,000	1,600
57	Oklahoma Institute	July and August	Territory				
57	Public Schools.						
44	Public Day-Sch'ls. (See page 94.)						
14	Denominational and Private Schools. (See page 98.)						
115	Schools in the United States.						

*Contains a department for the blind also, the expenses of which are included in the statement of expenditures.

†For the year 1899–1900.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900-'01—Continued.

B.—Public Day-Schools in the United States.

	Name.	Location.		Date of opening	Chief Executive Officer.
1	Horace Mann School for the Deaf	Boston, Mass. (178 Newbury St.)		1869	Miss Sarah Fuller, Principal.
2	Wicker Park Public Day-School for the Deaf	Chicago, Ill.	Evergr'n Av. near Robey St.	(a)	Miss Mary McCowen, Sup'g Principal.
3	Hartigan Public Day-School for the Deaf		Armour Ave. near 41st St...	1879	
4	Prescott Public Day-School for the Deaf		Wrightw'd & Ashland Aves.	1879	
5	Monroe Street Public Day-School for the Deaf		157 Monroe St	1875	
6	Yale Public Day-School for the Deaf		Cor. 70th St and Yale Ave..	1896	
7	Lyman Trumbull Public Day-School for the Deaf		Cor. Sedg'k & Division Sts..	1896	
8	Kozminski Public Day-School for the Deaf		Cor. 54th St. & Ingleside Av.	1896	
9	Seward Public Day-School for the Deaf		4634 Ashland Ave	1897	
10	Darwin Public Day-School for the Deaf		Hum. Blvd. & Armitage Av	1898	
11	Burr Public Day-School for the Deaf		Ashl'd Av. near North Av.	1898	
12	Froebel Public Day-School for the Deaf		21st St. near Robey St.	1898	
13	Cincinnati Public School for the Deaf	Cincinnati, Ohio (719 W. Sixth St.)		1875	Miss Caroline Fesenbeck, Principal.
14	St. Louis Day-School for the Deaf	St. Louis, Mo. (e)		1878	Jas. H. Cloud, M. A., Principal.
15	Milwaukee Public Day-School for the Deaf	Milwaukee, Wis. (d)		1883	Miss Frances Wettstein, Principal.
16	Oral School of Cincinnati	Cincinnati, Ohio (719 W. Sixth St.)		1886	Miss Virginia A. Osborn, Principal.
17	Evansville Day-School for the Deaf	Evansville, Ind. (High School Build'g)		1886	Paul Lange, M. A., Principal.
18	Wausau Day-School for the Deaf	Wausau, Wis.		1890	Miss Margaret Hurley, Principal.
19	Cleveland Day-School for the Deaf	Cleveland, Ohio (f)		1892	Miss Katharine E. Barry, Super'g Prin.
20	Manitowoc Day-School for the Deaf	Manitowoc, Wis. (Washington St.)		1893	Miss Dora P. Hendrickson, Principal.
21	Sheboygan Day-School for the Deaf	Sheboygan, Wis		1894	Miss H. Ray Kribs, Principal.
22	Detroit Day-School for the Deaf	Detroit, Mich. (g)		1894	Miss Elizabeth Van Adestine, Principal.
23	Eau Claire Day-School for the Deaf	Eau Claire, Wis		1895	Miss Jennie C. Smith, Principal.
24	Fond du Lac School for the Deaf	Fond du Lac, Wis		1895	Miss Anna Sullivan, Principal.
25	Marinette School for the Deaf	Marinette, Wis. (1532 Main St.)		1895	Miss Etta M. Golden, Teacher.
26	Oshkosh School for the Deaf	Oshkosh, Wis. (Library building)		1895	Miss Katharine Grimes, Principal.
27	Appleton School for the Deaf	Appleton, Wis		1896	Miss Hannah Gardner, Principal.
28	Green Bay Day-School for the Deaf	Green Bay, Wis		1897	Miss Olga M. Gebhart, Teacher.
29	Black River Falls School for the Deaf	Black River Falls, Wis.		1897	Miss Grace Luise Roby, Principal.
30	Superior Day-School for the Deaf	West Superior Wis		1897	Miss Delia C. Page, Principal.
31	Neillsville Day-School for the Deaf	Neillsville, Wis		1897	Miss Elizabeth H. Irish, B. A., Teacher.
32	Los Angeles Oral School for the Deaf	Los Angeles, Cal		1898	Miss Mary E. Bennett, Principal.
33	Lorain County Oral Deaf School	Elyria, Lorain Co., Ohio		1898	Miss Katherine May Binkley, Teacher.
34	Ashland Day-School for the Deaf	Ashland, Wis		1898	Miss Katharine Moriarty, Teacher.

35	Stevens Point Day-School for the Deaf	Stevens Point, Wis.	1898	Miss Gertrude Van Adestine, Principal.
36	Streator Day-School for the Deaf	Streator, Ill	1898	Miss Edith E. Brown, Teacher.
37	La Crosse Day-School for the Deaf	La Crosse, Wis.	1899	Miss Lida J. Kline, Principal.
38	Dayton School for the Deaf	Dayton, O. (6th Dist. School, Hick'y St.)	1899	Miss Jessie F. Zearing, Principal.
39	Derinda Centre School for the Deaf	Derinda Centre, Ill	1899	Miss Anna M. Black, Teacher.
40	Oakland Oral Day-School for the Deaf	Oakland, Cal. (11th & Jefferson Sts.)	1899	Miss Charlotte Louise Morgan, Director.
41	Sparta Day-School for the Deaf	Sparta, Wis	1899	Miss Hulda Rudolph, Principal.
42	Grand Rapids Day-School for the Deaf	Grand Rapids, Mich	1899	Miss Margaret M. Sullivan, Principal.
43	Muskegon Day-School for the Deaf	Muskegon, Mich.	1900	Miss Laura Robie, Teacher.
44	Menominee Day-School for the Deaf	Menominee, Mich	1900	Miss Olive Newlin, Teacher.
44	Public Day-Schools in the United States.			

(*a*) The first Public Day-School for the Deaf in Chicago was opened in 1875 in a rented building on Van Buren Street. (*c*) Cor. Ninth and Wash Streets.
(*d*) Cor. Seventh and Prairie Streets. (*f*) 1304 Willson Avenue. (*g*) Wilkins School, Porter Street.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900–'01—Continued.

PUBLIC DAY-SCHOOLS IN THE UNITED STATES—Continued.

	Name.	Methods of Instruction.*	Industries Taught. (*b*)	NUMBER OF PUPILS.								PRESENT NUMBER OF INSTRUCTORS.					
				Within the year 1900.**	PRESENT NOV. 10, 1900.												
					Total.	Male.	Female.	Taught Speech.†			Total have received instruction.	Total.††	Male.††	Female.††	Deaf.	Artic'tion.‡	Industrial.
								A.†	B.†	C.†							
1	Horace Mann School	Oral	Art, Ck., Cl., Sc., Sl., and use of tools.	146	124	63	61	124	124	.....	513	16	.....	16	...	13	3
2	Wicker Park School	Combined	Drawing and construction work	15	11	7	4	10	.....	.....	.....	3	.....	3	1	1	2
3	Hartigan School	Combined	Drawing and construction work	9	7	5	2	7	.....	.....	.....	2	.....	2	...	1	1
4	Prescott School	Combined	Drawing and construction work	8	6	3	3	6	.....	.....	.....	2	.....	2	...	1	1
5	Monroe St. School	Combined	Drawing and construction work	36	22	17	5	21	.....	.....	.....	4	2	2	1	2	2
6	Yale School	Oral	Drawing and construction work, Sl.	54	42	23	19	42	42	.....	.....	7	.....	7	...	7	7
7	Lyman Trumbull School	Oral	Drawing and construction work	22	16	9	7	16	16	.....	.....	3	.....	3	...	2	2
8	Kozminski School	Oral	Drawing and construction work	16	15	11	4	15	15	.....	.....	3	.....	3	...	2	2
9	Seward School	Oral	Drawing and construction work	11	8	4	4	8	8	.....	.....	2	.....	2	...	1	1
10	Darwin School	Oral	Drawing and construction work, Sl.	12	11	6	5	11	11	.....	.....	2	.....	2	...	1	1
11	Burr School	Oral	Drawing and construction work	9	8	4	4	8	8	.....	.....	2	.....	2	...	1	1
12	Froebel School	Oral	Drawing and construction work.	21	16	12	4	16	16	.....	.....	3	.....	3	...	2	2
13	Cincinnati Public School	Manual	Sewing	10	8	5	3	.....	.....	.....	127	1	.....	1	1	.....	...
14	St. Louis School	Combined	None	48	36	24	12	30	.....	.....	240	5	1	4	2	3	...
15	Milwaukee School	Oral	Art, Car., Ck., Pr., Se., Sl., Wc.	63	55	25	30	55	55	.....	172	10	.....	10	...	9	1
16	Cincinnati Oral School	Oral	Se	28	24	13	11	24	24	.....	81	5	.....	5	...	5	...
17	Evansville School	Combined	None	16	14	8	6	2	.....	.....	.....	1	1	.....	...	.....	...
18	Wausau School	Oral	Drawing	8	7	4	3	7	7	.....	22	2	.....	2	...	1	1
19	Cleveland School	Oral	Man	66	62	33	29	61	61	.....	.....	8	1	7	...	6	2
20	Manitowoc School	Oral	None	5	5	2	3	5	5	.....	.....	1	.....	1	...	1	...
21	Sheboygan School	Oral	None	7	6	3	3	6	6	.....	11	1	.....	1	...	1	...
22	Detroit School	Oral	Man., Se	30	30	14	16	30	30	.....	30	5	.....	5	...	5	...
23	Eau Claire School	Oral	Ck., Man., Pa	14	12	5	7	12	12	.....	16	4	1	3	...	2	2
24	Fond du Lac School	Oral	Se., Sl	6	5	2	3	5	5	.....	10	2	.....	2	...	1	1
25	Marinette School (*a*)	Oral	None	9	7	3	4	7	7	.....	13	1	.....	1	...	1	...
26	Oshkosh School	Oral	Ck., Man., Se., Sl.	10	8	4	4	8	8	.....	19	2	1	1	...	1	1
27	Appleton School	Oral	Se., Sl	7	7	6	1	7	7	.....	12	1	...	1	...	1	...
28	Green Bay School	Oral	None	12	8	6	2	8	7	1	17	1	.....	1	...	1	...
29	Black River Falls School	Oral	None	5	4	2	2	4	4	.....	11	1	.....	1	...	1	...
30	Superior School	Oral	.....	15	11	6	5	11	11	.....	18	2	.....	2	...	1	1
31	Neillsville School	Oral	None	10	9	3	6	9	9	.....	12	1	.....	1	...	1	...
32	Los Angeles School (*a*)	Oral	Sewing	14	13	8	5	13	13	.....	.....	6	3	3	...	2	3

33	Lorain County School	Oral	None	8	8	4	4	8	8	.....	11	1	.....	1	...	1	...
34	Ashland School	Oral	Man	12	8	4	4	8	8	.....	13	1	.....	1	...	1	...
35	Stevens Point School	Oral	None	6	6	4	2	6	6	.....	6	1	.....	1	...	1	...
36	Streator School	Oral	None	8	6	4	2	8	8	.....	8	1	.....	1	...	1	...
37	La Crosse School	Oral	None	12	9	3	6	9	9	.....	12	2	.....	2	...	2	...
38	Dayton School	Combined	Dr., Se	8	5	2	3	4	4	.....	11	1	.....	1	...	1	...
39	Derinda Centre School (*a*)	Oral	None	3	3	1	2	3	3	.....	3	1	.....	1	...	1	...
40	Oakland School	Oral	Bas., Ga., Ho., Sl	7	7	5	2	7	7	.....	7	1	.....	1	...	1	...
41	Sparta School	Oral	Se., Sl	11	11	4	7	11	11	.....	11	2	.....	2	...	2	...
42	Grand Rapids School	Oral	None	17	15	7	8	15	15	.....	17	2	.....	2	...	2	...
43	Muskegon School	Oral	None	8	7	4	3	7	7	.....	8	1	.....	1	..	1	...
44	Menominee School	Oral	None	6	6	4	2	6	5	1	6	1	...	1	...	1	...
44	Public Day-Schools			848	708	386	322	680	602	2	1,437	124	10	114	5	92	37

* See page 101. ** Including the pupils who have left during the year. † A = number taught speech. B = number taught wholly or chiefly by the Oral method. C = number taught wholly or chiefly by the Auricular method. †† Including the principal and the teachers of industries. ‡ Including those who teach speech and those who teach by speech, but not the teachers of industries. (*a*) For the year 1899–1900. (*b*) See page 102.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900–'01—Continued.

PUBLIC DAY-SCHOOLS IN THE UNITED STATES—Continued.

	Name.	Vacation.	How Supported.
1	Horace Mann School	Last Tuesday in June to first Wed. in Sept	State and City.
2			
3			
4			
5			
6			
7	Chicago Public Schools	July and August	State Common School Fund.
8			
9			
10			
11			
12			
13	Cincinnati Public School	June 23 to second Mon. in Sept	City.
14	St. Louis School	Second Friday in June to first Mon. in Sept	City.
15	Milwaukee School	Last Fri. in June to first Mon. in Sept	State and City and County.
16	Cincinnati Oral School	June 20 to Sept. 8	State and City.
17	Evansville School	First Thurs. in June to first Mon. in Sept	City.
18	Wausau Oral School	June 18 to Sept. 8	State and City.
19	Cleveland School	June 15 to Sept. 15	City.
20	Manitowoc School	Last of June to first of Sept	State and City.
21	Sheboygan School		State and City.
22	Detroit School	Twelve weeks from June 21	State and City.
23	Eau Claire School	Sixteen weeks	State and City.
24	Fond du Lac School	June 1 to Sept. 9	State and City
25	Marinette School	Last of June to first of Sept	State and City.
26	Oshkosh School	June 25 to Sept. 6	State and City.
27	Appleton School	June, July, August	State and City.
28	Green Bay School	June 15 to Sept. 6	State and City.
29	Black River Falls School		State and City.
30	Superior School	July and August.	State and City.
31	Neillsville School	June 10 to Sept. 10	State and City.
32	Los Angeles School		City and private subscription.

33	Lorain County School		State and County.
34	Ashland School	July to September	State and City.
35	Stevens Point School	Begins in June	State and City.
36	Streator School	June 1 to September 1	State and City.
37	La Crosse School	June to September	State and City.
38	Dayton School	June 8 to Sept. 11	State and City.
39	Derinda Centre School		State and City.
40	Oakland School	July and August	City and private subscription.
41	Sparta School	June to September	State and City.
42	Grand Rapids School		State and City.
43	Muskegon School	Begins June 22	State and City.
44	Menominee School	Begins June 1	State and City.
44	Public Day-Schools in the United States.		

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900-'01—Continued.

C.—Denominational and Private Schools in the United States.

	Name.	Location.	Date of opening.	Chief Executive Officer.
1	Evangelical Lutheran Institution for the Deaf	North Detroit, Wayne Co., Mich.	1873	Rev. H. A. Bentrup, Superintendent.
2	St. John's Catholic Deaf-Mute Institute	St. Francis, Wis.	1876	Rev. M. M. Gerend, President.
3	F. Knapp's Institute	Baltimore, Md. (851 & 853 Hollins St.)	1877	Wm. A. Knapp, Principal.
4	The McCowen Oral School for Young Deaf Children	Chicago, Ill. (6550 Yale Ave.)	1883	Miss Cornelia D. Bingham, Head Teacher.
5	Ephpheta School for the Deaf	Chicago, Ill. (409 S. May St.)	1884	Miss Margaret Cosgrove, Superintend't.
6	Mariæ Consilia School for the Deaf	St. Louis, Mo. (1849 Cass Ave.)	1885	Sister M. Adele, Principal.
7	The Sarah Fuller Home	West Medford, Mass. (93 Woburn St.)	1888	Miss Eliza L. Clark, Principal & Matron
8	Notre Dame School for the Deaf	Cincinnati, O. (a)	1890	Sister Mary of the S. Heart, Prin.
9	Deaf-Mute Institute of the Holy Rosary	Chinchuba, St. Tammany Parish, La.	1890	Rev. G. Ruppert, Chaplain.
10	St. Joseph's Deaf-Mute Institute for Boys	Longwood Place, South St. Louis, Mo.	1892	Rev. Mother Agatha, Principal.
11	Wright-Humason School	New York, N. Y. (42 West 76th St.)	1894	{Thos. A. Humason, M. A., Ph.D. / John Dutton Wright, M. A.} Prin's
12	St. Joseph's School and Home for Deaf-Mutes	Oakland, Cal. (4002 Telegraph Ave.)	1895	Sister M. Valeria, Principal.
13	St. Francis Xavier's School for the Deaf	Baltimore, Md. (903 McCulloh St.)	1897	Mother M. Joseph Hartwell, Principal.
14	Boston School for the Deaf	Jamaica Plain, Mass. (9-11 St. Joseph St)	1899	Rev. Thomas Magennis, Superintendent.
14	Denominational and Private Schools in the United States.			

(a) Sixth Street, between Sycamore and Broadway.

	Name.	Methods of Instruction.*	Industries Taught. (c)	NUMBER OF PUPILS.								PRESENT NUMBER OF INSTRUCTORS.					
				Within the year 1900.**	PRESENT NOV. 10, 1900.						Total have received instruction.						
					Total.	Male.	Female.	Taught Speech.†				Total.††	Male.††	Female.††	Deaf.	Articulation.‡	Industrial.
								A.†	B.†	C.†							
1	Evangelical Lutheran Institution	Combined	Car., Ck., Fa., Ho., Sc., Sh.	42	36	12	24	27	27	.....	242	7	5	2	...	4	3
2	St. John's Catholic Institute	Combined	Car., Pa., Wc.	74	62	33	29	46	.....	.....	326	9	4	5	...	4	4
3	Mr. Knapp's Institute (a)	Oral	None.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	...
4	McCowen Oral School	Oral	Dra., Ho., Se., Sl.	30	28	18	10	28	28	.....	.....	5	.....	5	...	5	5
5	Ephpheta School	Combined	Cl., Se., Wc.	50	46	.....	46	46	.....	.....	277	7	.....	7	...	4	2
6	Mariæ Consilia School	Combined	Dr., Ph., Pr., Ty.	41	30	.....	30	15	5	.....	400	6	.....	6	...	3	2
7	Sarah Fuller Home	Oral	None.	15	10	2	8	10	10	.....	62	5	.....	5	...	5	...
8	Notre Dame School	Combined	Se.	20	16	7	9	14	13	1	.....	3	.....	3	...	3	1
9	Institute of the Holy Rosary	Combined	Dr., Se.	57	42	25	17	19	.....	.....	110	9	5	4	...	4	4
10	St. Joseph's Institute (Mo.) (b)	Combined	Fa., Pr.	20	15	15	.....	12	4	3	30	5	.....	5	...	2	2
11	Wright-Humason School	Oral	None.	32	23	10	13	23	23	.....	65	9	3	6	...	9	...
12	St. Joseph's Institute (Cal.)	Combined	Art, Dr., Em.	35	32	11	21	8	5	.....	40	4	.....	4	...	1	1
13	St. Francis Xavier's School	Combined	.....	27	27	6	21	27	27	.....	29	5	.....	5	...	3	2
14	Boston School	Oral	None.	32	29	16	13	29	29	.....	32	5	1	4	...	4	...
14	Denom. and Private Schools.	.....	.....	475	396	155	241	304	171	4	1,623	79	18	61	...	51	26

*See page 101. ** Including the pupils who have left during the year. † A = number taught speech. B = number taught wholly or chiefly by the Oral method. C = number taught wholly or chiefly by the Auricular method. †† Including the principal and the teachers of industries. ‡ Including those who teach speech and those who teach by speech, but not the teachers of industries. (a) This school also admits hearing pupils, but the statistics of only the deaf pupils and their instructors are here given. (b) For the year 1899-1900. (c) See page 102.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900-'01—Continued.

DENOMINATIONAL AND PRIVATE SCHOOLS IN THE UNITED STATES—Continued.

	Name.	Vacation.	How Supported.
1	Evangelical Lutheran Institution	Last Wednesday in June to first Wednesday in September	Tuition fees and Lutheran Congregations.
2	St. John's Catholic Institute	End of June to first week in Sept	Voluntary contributions and tuition fees.
3	Mr. Knapp's Institute		Tuition fees and State appropriations.
4	McCowen Oral School	None	Tuition fees and voluntary contributions.
5	Ephpheta School	Last Friday in June to first Monday in Sept	Tuition fees and voluntary subscriptions.
6	Mariæ Consilia School	Last week of June to first week of Sept	Tuition fees and voluntary contributions.
7	Sarah Fuller Home	August	Private subscription.
8	Notre Dame School	15th of June to first week in September.	
9	Institute of the Holy Rosary	June 1 to September 1	Voluntary contributions and tuition fees.
10	St. Joseph's Institute (Mo.)	June 30 to Sept. 1	Voluntary contributions and tuition fees.
11	Wright-Humason School	June 7 to Oct. 1	Tuition fees.
12	St. Joseph's Institute (Cal.)	Two months	Industry of sisters and tuition fees.
13	St. Francis Xavier's School	Two months	Voluntary contributions.
14	Boston School	Second Wednesday in June to Third Wednesday in September	Corporation funds.
14	Denominational and Private Schools.		

	Name.	Location.	Date of opening.	Chief Executive Officer.
1	Catholic Institution for Male Deaf-Mutes for the Province of Quebec	Mile-End, near Montreal, P. Q.	1848	Rev. M. Cadieux, C. S. V., Director.
2	Catholic Female Deaf and Dumb Institute	Montreal, P.Q. (546 Berri St.)	1851	Rev. Sister Philippe de Jesus, Superioress.
3	Halifax Institution for the Deaf and Dumb	Halifax, N. S.	1857	James Fearon, Principal.
4	Ontario Institution for the Deaf and Dumb	Belleville, Ontario	1870	Robert Mathison, M. A., Superintendent.
5	Mackay Institution for Protestant Deaf-Mutes and the Blind	Montreal, P. Q. (*a*)	1870	Mrs. Harriet E. Ashcroft, Superintendent.
6	Fredericton Institution for the Education of the Deaf and Dumb	Fredericton, N. B.	1882	Albert F. Woodbridge, Superintendent.
7	Manitoba Deaf and Dumb Institution	Winnipeg, Manitoba	1888	D. W. McDermid, Principal.
7	Schools in Canada.			

	Name.	Methods of Instruction.*	Industries Taught. (*b*)	NUMBER OF PUPILS.								PRESENT NUMBER OF INSTRUCTORS.					
				Within the year 1900.**	PRESENT NOV. 10, 1900.						Total have received instruction.						
					Total.	Male.	Female.	Taught Speech.†				Total.††	Male.††	Female.††	Deaf.	Artic'la'n.‡	Industrial.
								A.†	B.†	C.†							
1	Cath. Inst (Male) {Oral Dep / Man. do.}	Oral / Manual	Ba., Bl., Bo., Cab., Car., Fa., Ga., Pa., Pr., Sh., Ta., Wt.	130	60 / 42	60 / 42	..... /	60 / 42	60 /	..... /	781	31	31	.....	1	8	14
2	Cath. Inst (Fem) {Oral Dep / Man. do.}	Oral / Combined	Art, Em., Ho., Kn., Se., Wea.	120 / 49	116 / 49	..... /	116 / 49	116 /	108 /	8 /	900	35 / 10	..... /	35 / 10	... / ...	25 / ...	21
3	Halifax Institution	..... do.	Car., Dr., Ga., Pr.	119	106	60	46	64	42	.....	.....	14	4	10	1	5	4
4	Ontario Institution	..... do.	Bar., Car., Dr., Pr., Sh., Sl., Ta.	252	254	136	118	60	.....	.....	1,187	22	13	9	7	2	5
5	Mackay Institution	.... do.	Cab., Car., Dr., Pr., Sh., Wc	65	62	32	30	45	20	15	176	8	3	5	1	5	3
6	Fredericton Institution	..... do.	Needlework, china painting	40	32	20	12	26	.....	.....	81	4	2	2	1	1	1
7	Manitoba Institution	..... do.	Car., Co., Dr., Pe., Pr., Se., Wc	76	58	25	33	12	12	.....	112	5	2	3	3	1	1
7	Schools in Canada			881	779	375	404	425	242	23	3,239	129	55	74	14	47	49

* See page 101. ** Including those who have left school during the year. † A = number taught speech. B = number taught wholly or chiefly by the Oral method. C = number taught wholly or chiefly by the Auricular method. †† Including the principal and the teachers of industries. ‡ Including those who teach speech and those who teach by speech, but not the teachers of industries.

(*a*) Notre Dame de Grace. (*b*) See page 102.

TABULAR STATEMENT OF AMERICAN SCHOOLS FOR THE DEAF, 1900-'01—Continued.

SCHOOLS IN CANADA—Continued.

	Name.	Vacation.	How Supported.	Value of build'gs and grounds.	Expenditure Last Fiscal Year.		No. volumes in library.
					For support.	For buildings and grounds.	
1	Catholic Inst'n, (Male)	Third Wed. in June to first Wed. in Sept	Province, pupils, and vol. contributions	$150,000			2,000
2	Catholic Inst'n, (Female)	July 1st to Sept. 1st	Province and voluntary contributions				5,133
3	Halifax Institution	Last week in June to first week in Sept	Province and voluntary contributions	100,000	$15,574	$899	
4	Ontario Institution	Third Wed. in June to second Wed. in Sept	Province	252,500	45,185	1,500	2,610
5	Mackay Institution	Third Wed. in June to second Wed. in Sept	Province, pupils, and vol. contributions	60,000	8,105	687	825
6	Fredericton Institution	July 1 to Sept. 1	Province and voluntary contributions		5,385		
7	Manitoba Institution	Second Wed. in June to second Wed. in Sept	Province	70,000	13,287	3),500	500
7	Schools in Canada.						

METHODS OF INSTRUCTION IN AMERICAN SCHOOLS FOR THE DEAF.

THE "Methods of Instruction" named in the preceding Tabular Statement may be defined as follows:

I. *The Manual Method.*—Signs, the manual alphabet, and writing are the chief means used in the instruction of the pupils, and the principal objects aimed at are mental development and facility in the comprehension and use of written language. The degree of relative importance given to these three means varies in different schools; but it is a difference only in degree, and the end aimed at is the same in all.

II. *The Manual Alphabet Method.*—The manual alphabet and writing are the chief means used in the instruction of the pupils, and the principal objects aimed at are mental development and facility in the comprehension and use of written language. Speech and speech-reading are taught to all of the pupils in one of the schools (the Western New York Institution) recorded as following this method.

III. *The Oral Method.*—Speech and speech-reading, together with writing, are made the chief means of instruction, and facility in speech and speech-reading, as well as mental development and written language, is aimed at. There is a difference in different schools in the extent to which the use of natural signs is allowed in the early part of the course, and also in the prominence given to writing as an auxiliary to speech and speech-reading in the course of instruction; but they are differences only in degree, and the end aimed at is the same in all.

IV. *The Auricular Method.*—The hearing of semi-deaf pupils is utilized and developed to the greatest possible extent, and, with or without the aid of artificial appliances, their education is carried on chiefly through the use of speech and hearing, together with writing. The aim of the method is to graduate its pupils as hard-of-hearing speaking people instead of deaf-mutes.

V. *The Combined System.*—Speech and speech-reading are regarded as very important, but mental development and the acquisition of language are regarded as still more important. It is believed that in many cases mental development and the acquisition of language can be best promoted by the Manual or the Manual Alphabet method, and, so far as circumstances permit, such method is chosen for each pupil as seems best adapted for his individual case. Speech and speech-reading are taught where the measure of success seems likely to justify the labor expended, and in most of the schools some of the pupils are taught wholly or chiefly by the Oral method or by the Auricular method.

INDUSTRIES TAUGHT IN AMERICAN SCHOOLS FOR THE DEAF.

The "Industries Taught" in American Schools for the Deaf, mostly designated by abbreviations in the preceding Tabular Statement, are: Art, Baking (Bak.), Barbering (Bar.), Basket-making (Bas.), Blacksmithing (Bl.), Bookbinding (Bo.), Bricklaying (Bk.), Broom-making (Br.), Cabinet-making (Cab.), Calcimining (Cal.), Carpentry (Car.), Chalk-engraving (Ce.), Cementing (Cg.), Chair-making (Ch.), China painting (Cp.), Cooking (Ck.), Clay-modelling (Cl.), Coopery (Co.), Drawing (Dra.), Dress-making (Dr.), Embroidery (Em.), Engineering (En.), Fancy-work (Fan.), Farming (Fa.), Floriculture (Fl.), Gardening (Ga.), Glazing (Gl.), Harness making (Ha.), Half-tone engraving (He.), Housework (Ho.), Horticulture (Hor.), Ironing (Ir.), Knitting (Kn.), Manual-training (Man.), Mattress-making (Ma.), Millinery (Mi.), Needlework, Painting (Pa.), Paper-hanging (Pap.), Plastering (Pl.), Plate-engraving (Pe.), Photography (Ph.), Printing (Pr.), Sewing (Se.), Shoemaking (Sh.), Sloyd (Sl.), Stone-laying (St.), Tailoring (Ta.), Typewriting (Ty.), Venetian Iron Work (Ven.), Weaving (Wea.), Wood-carving (Wc.), Wood-engraving (We.), Wood-turning (Wt.), Wood-working (Ww.), Working in Iron (Wi.), and the Use of Tools.

HOW SIGNS DISAPPEARED FROM THE ROCHESTER SCHOOL.*

THE attempt to interest the pupils on their own behalf to abandon the sign-language, at the time that it was discontinued in all school exercises and in intercourse with pupils, was begun in 1878. No repression was resorted to;. on the contrary, pupils were not even reproved for using the sign-language, for this language had been painstakingly taught to them by the Superintendent and others of the school, and its use was a matter for which the school was entirely responsible. In order that the use of English should be faithfully persisted in, its adoption had

*Reprinted, by permission, from the Rochester *Daily Paper for Our Little People* for November 17, 1900.

to be voluntary. There are always, in every school, a number who are willing to co-operate with the school for their own betterment, if there is ground for believing that "the game is worth the candle." Those who undertook to work with the Superintendent in proving the practicability and value of English as the habitual and exclusive language medium for the deaf, were, of course, the more intelligent and stronger willed and, generally, the more influential pupils of the school, though there were volunteers in every class, among the dullest as well as the brightest pupils. It soon became plain that every one who used English was benefited and the number steadily grew.

The school had previously had pleasant parties for the pupils, but, in addition to these, the Superintendent instituted an occasional special entertaintment in his private rooms for those who, for a given time, perhaps for one month, succeeded in using English. The invitations were always given out in advance, and the pupils themselves decided who were entitled to accept the invitations; thus testifying that those they approved had not only used English but had made no signs during the time. There could be no critics more severe than those who passed judgment upon the guests entitled to attend the receptions in the Superintendent's parlors. If one had given so much as a nod of the head in place of the word "yes," the inexorable critics ruled him out. The officers of the school generally knew pretty well who were faithful in the use of English, but there could be no question about any one of these if, in addition to the officers' impressions, he was endorsed by his schoolmates. While there was from month to month and year to year a steadily increasing number whose intercourse was entirely through English, there were some pupils who, having become habituated to the use of the sign-language, could not bring themselves to a willingness to attempt to use any other. While thus

deterred by timidity or inability from using English, there was no question but that they were helped by its being constantly used to them and about them.

Pupils attending the Rochester School at this time will remember one of the last of these free and easy sign-makers, who, because of diffidence, together with a persistent determination that was opposed to every innovation, had been unwilling to give up signs. A kind-hearted but eccentric fellow, he was always a centre of attraction for little boys, who would gather about him and call for stories of his personal adventures, for he had travelled much between Buffalo and New York on a canal boat. His stories were told in signs, with but an occasional spelled word, but there was never any attempt to repress him. The boys, taking in his story, questioned him by spelling, generally, for they had learned to use English, and language habits, supported by purpose, are just as strong with those who use English as with those who are sustained in their purpose to use signs. This man continues to make signs and will to his dying day. There is, however, no less love for these old pupils who learned signs as their mother-tongue and use it as their means of intercourse. This story-teller has had a home for the last two years on Islay Island at the Bungalow, where his strong character, his honesty, his faithfulness, and his sturdy independence, as well as his great strength, have made him a valuable man. If, instead of coming the first year of the school, this man had entered after the practicability of the "Rochester Experiment" had been demonstrated, English instead of signs would have become his mother-tongue, and his superior ability and character would have made him a man of mark among those who have attended our school. As it is, however, the Superintendent feels in a measure responsible for his condition. In the early years, the school did not feel at liberty to require pupils to use English, but left them to undertake it of their own initiative.

It was a long time before the leaven had spread throughout the school, so that in the report for 1881 the following statement was the best that could be made: "We endeavored by advice and example to induce the pupils voluntarily to use English sentences in their conversation. After three years, however, signs are not yet banished from our school, but the attention of the occasional visitor would be called to what signs are made, by their infrequency. Many of our pupils have acquired a very considerable fluency in conversational language, compared with whom pupils who have not made the necessary effort to accomplish this show a retarded development that proves that their out-of-school habits of thought and expression and their language surroundings (for the sign-makers associated with those who used signs) have great influence either in making permanent the schoolroom work, or in effacing what had been done."

It was not until the fifth year of the experiment that we were able to say the use of English was general in the school. This statement was made in the report for 1883. There were, however, a number of those who abandoned the sign-language who failed to use English well. They spelled freely and easily, but used English words in literal translation of signs, using isolated words, or words in sign order. This evil, like that of signs, gradually disappeared.

Almost every year pupils are received from other schools who bring with them the sign-language and the inability to express thought through English. Little is said to them about the signs they make, but they are helped to learn and use English, and as that is the language of the school they soon come to enjoy it. Signs have never been forbidden. In the early years such an order would have been impossible to enforce, and would have worked hardship. In the latter years it has been unnecessary, but reproof certainly would not now be

withheld if there were occasion for it. A sign-making new pupil is expected to learn, as speedily as he may be able, to express his thought in English, with assurance that when he learns to do this he will prefer it.

The Rochester School is especially earnest in its efforts to help its pupils, not only to use English, but to aspire to the best English, and through it to express the purest thoughts, engage in the brightest and most profitable conversation, and to derive the greatest possible pleasure from social intercourse. To this end the school has organized a number of clubs, debating, missionary, and literary societies, Christian Association and Christian Endeavor meetings, parties and social gatherings of all sorts, all of which brighten the school life and develop the character and general social gifts of the pupils. The pupils enter into these with as much enthusiasm as do hearing boys and girls in similar gatherings.

The Superintendent of this Institution and his wife, who have spent their lives in schools for the deaf, are confident that in all their experience they have never met a happier or more unconstrained company of deaf children than those who have grown up at the Rochester School, accustomed to the freest and most natural use of English. Many of them have never seen signs made, so as to understand their meaning, and if they were asked in conventional signs if they "like to play," if they are "happy at school," if they "want to see father and mother," or any other questions, no matter how simple, they would be wholly unable to understand or answer. This is not true of all our pupils, for some have been taught signs from their cradles, and used them until they learned English here; then they used them no more. Pupils who acquire the sign-language in other schools do not use signs after they have been a short time in the atmosphere of the Rochester School. If, after our pupils leave school, they are associated with such of the deaf as use no language

but gesture signs, they can soon acquire this meagre language, which has not more than two or three hundred signs in general use. At gatherings of the adult deaf, Rochester English-taught pupils may use signs with those restricted to that language, but they will talk to one another in English because they are able to and they like it better. There are a number of the deaf with whom we are acquainted, teachers and others, not Rochester pupils, who, with certain friends at least, have established the habit of using English. Of them it is also true that, having at command both languages, they are convinced that it is to their advantage to use English.

There are in almost every combined-method school some teachers who can use manual spelling easily and rapidly, and from their own experience can testify that it is not appreciably harder, for those who are accustomed to it, to spell or to follow manual spelling than it is for the hearing to speak or to listen to speech. And there are among the deaf a constantly increasing number who, with or without the aid of their schools, are accustoming themselves to the persistent use of English and their scholarship is proof of the advantage it is to them.

A large number of the deaf, after leaving school, live entirely among the hearing. Many of our former pupils have relatives or friends who spell so easily that at church, Sunday-school, prayer-meeting, lectures, and political meetings, they enjoy all that is said; and any one of these, understanding English, and generally able to speak and read speech, is much better off at home than were, and are, those of our early pupils who left school restricted to the sign-language.

ZENAS FREEMAN WESTERVELT,
Superintendent of the Western New York Institution,
Rochester, New York.

RESOLUTIONS ADOPTED BY THE DEAF SECTION OF THE PARIS CONGRESS OF 1900.*

First Resolution.†

The Congress, considering that deaf children are not all upon the same plane of intellectual and physical aptitudes for the acquisition of speech and speech-reading, is of the opinion that the instruction of these children should not be limited to the rigorous application of a single method, but that the method should be chosen according to the aptitude of the pupil, and that all means should be employed which can contribute to the best intellectual and moral development of each individual.

The Congress, considering the value of speech and speech-reading, is of the opinion that all deaf children should be taught speech on entering school, and that this instruction should be continued with all those who succeed in it, and that the sign-language should be used for those who do not succeed in it.

Second Resolution.

Offered by Ernest Dusuzeau.

Considering the insufficiency of the pure oral method, while recognizing its utility, the Congress is of the opinion that the oral method and the sign method should be combined, and that, consequently, the mixed method should be re-established.

* Translated from the *Journal des Sourds-Muets* for November, 1900. The Sixth, Seventh, Eighth, Ninth, Tenth, Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, and Nineteenth Resolutions adopted by the Section are not here translated, as they related especially to France.

† This resolution (with the exception of the final clause, "and that the sign language should be used for those who do not succeed in it") is the same that was voted down in the Hearing Section of the Congress.

THIRD RESOLUTION.

Offered by Henri Gaillard.

The Congress of Deaf-Mutes admits the utility of the pure oral method, but demands the application of the combined system as the only means of perfecting the instruction of deaf-mutes, even with the oral method.

FOURTH RESOLUTION.

Offered by Henri Jeanvoine.

The Congress is of the opinion:

A. *In the intellectual and industrial point of view.*

1. That instruction should be made compulsory and free for all deaf-mutes, as for hearing persons, from the age of eight years;

2. That industrial instruction should be given parallel with intellectual instruction, for, in the case of most deaf-mutes, their ability to earn a living depends more upon their manual capabilities than upon their intellectual capabilities;

3. That deaf-mutes found incapable of receiving instruction by the oral method should be instructed by the method of the Abbé de l'Épée, namely, by signs and writing, and that this instruction should be committed to deaf-mute teachers, who through their infirmity are better able than hearing teachers to sympathize with their pupils;

4. That secondary and higher schools should be established for the benefit of selected deaf-mutes capable of pursuing a career in the sciences, letters, and arts;

5. That religious instruction should never be removed from the educational programme of deaf-mutes, for if one man more than another needs the knowledge of God and religion it is the deaf-mute.

B. *In the social point of view.*

1. That always and everywhere deaf-mutes should be treated as other citizens; that, consequently, the doors of public employment should be opened to them according to their capabilities, and that they should be admitted to the civil service so far as practicable.

2. That asylums should be established to receive all invalid deaf-mutes and those who are unable to provide for their own support.

FIFTH RESOLUTION.

Offered by René Desperriers.

The Congress is of the opinion that deaf-mutes should always be appointed to the position of instructors of deaf-mutes, especially when they have aptitude for the work still further increased by their sympathy for their own brothers.

ELEVENTH RESOLUTION.

Offered by Eugène Graff.

The Congress, considering the difficulty of most deaf-mutes in obtaining admission into the workshops of private industry, is of the opinion that the Government should reserve for deaf-mutes places in the shops, factories, and offices belonging to the State, especially in post and telegraph offices.

SEVENTEENTH RESOLUTION.

Offered by J. Hirn, of Helsingfors.

Considering the immense utility that would be afforded by a general uniformity of the sign-language in all the countries of the world, a uniformity which would gradually bring about the adoption of a single universal language, the Congress proposes to the local associations of deaf-mutes the following measures:

1. Within each association a special committee should be charged with the duty of preparing a collection of the signs employed by its members; this collection should include in the first place the graphic reproduction of the signs.

2. Each country shall send to the next International Congress of Deaf-Mutes one or more representatives well acquainted with the different systems of language employed in their respective countries, who shall also be able to report to what extent the governments will be disposed to assist a general international commission charged with the ulterior study of the question.

3. This International Commission, which should meet either conjointly with each of the International Congresses of Deaf-Mutes or separately, should undertake to introduce gradually and successively an ever-growing uniformity among the national systems by the adoption of the most characteristic signs of each language. These signs adopted and approved by the Commission should then be communicated by the cinematographic process to all the local associations.

4. The Commission should be further charged with preparing manuals of the universal language thus adopted.

5. To this same Commission might be finally entrusted, at the proper time, the duty of preparing an international alphabet for the use of deaf-mutes.

Eighteenth Resolution.

Offered by Marcel Mauduit and Henri Gaillard.

The Congress demands the creation of a position of inspector for the supervision and exclusive control of instruction in schools for deaf-mutes. This inspector should be a trained professional instructor, or a person well acquainted with the questions concerning deaf-mutes.

THE SIXTEENTH MEETING OF THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF.

GALLAUDET COLLEGE,
WASHINGTON, D. C., *December* 15, 1900.

To the Members of the Convention of American Instructors of the Deaf:

It has been decided by the Standing Executive Committee of the Convention to accept the very cordial invitation of the authorities of the Le Couteulx St. Mary's Institution for the Improved Instruction of Deaf-Mutes to hold the next meeting of the Convention at Buffalo, New York, and within the walls of the Institution.

The Convention will be called to order at eight o'clock in the evening of Tuesday, July 2, 1901, when addresses of welcome and responses will be made.

The Sisters in charge of the Institution will be happy to provide for the entertainment of one hundred ladies, at the very reasonable charge of one dollar per day. Sister M. Dositheus has been appointed Local Committee of Arrangements, and to her due notice of purpose to take advantage of the offer just mentioned should be given.

Arrangements have been made for the accommodation of male members of the Convention, and others in excess of the number to be entertained in the Institution, at Statler's Pan-American Hotel, now in process of construction, very near the principal entrance to the Exposition grounds. This hotel is to be a first-class establishment, its proprietor being a caterer and restaurant keeper in Buffalo of reputation and high standing. The charge to members of the Convention, from one hundred and twenty-five to one hundred and seventy-five, will be two

dollars per day for lodging (in no case more than three in a room), breakfast, and evening dinner.

All persons availing themselves of these special rates who are not already members of the Convention but are eligible to membership will be expected to become members at the Buffalo meeting. The conditions of membership are as follows:

"All persons actively engaged in the education of the deaf may enjoy all the rights and privileges of membership in the association on payment of the prescribed fees [$2.00 the first year and $1.00 annually thereafter] and agreeing to the Constitution."

Luncheon will be served daily in the Institution to *all* members of the Convention at a charge of twenty-five cents to those living outside.

Assurance is given by the authorities of the Exposition that low rates will be accorded by the railroads of the country to visitors to the Exposition.

Particulars as to the conditions under which others besides active members of the Convention may take advantage of reduced rates of board will be published later.

The many inducements, usual and unusual, to the people of our country, and of other countries, to visit Buffalo during the summer of 1901, will, it is believed, draw a large attendance upon the proposed meeting of our Convention, including many delegates from our sister countries, both on the North and on the South.

The buildings of the Le Couteulx St. Mary's Institution are new and very beautiful, having a fine hall for the meetings of the Convention, and convenient rooms for exhibits, committee meetings, etc.

The Chairmen of Section Committees are already at work on the programme of proceedings, which will be duly published in the *Annals*.

With cordial greetings from the Committee to the members of the Convention, and to all engaged in the

work of educating the deaf, or interested therein, the hope is expressed that the Sixteenth meeting of the Convention may surpass, in numbers and interest, all that have preceded it.

EDWARD M. GALLAUDET,
President of the Convention

NOTICES OF PUBLICATIONS.

BELL, ALEXANDER MELVILLE. Principles of Speech and Dictionary of Sounds, including directions and exercises for the cure of stammering and correction of all faults of articulation. Washington, D. C.: The Volta Bureau, 1900. 12mo, pp. 296.

This is the fifth edition of a work which was first published in 1849 under the title of "A New Elucidation of the Principles of Speech and Elocution." The second edition, published in 1863 under the title of "Principles of Speech and Dictionary of Sounds" was entirely rewritten; the present differs from the second and subsequent editions in adding a section on "Visible Speech." The work is written not merely for the benefit of pupils who have teachers, but for those who have not, and the instruction is therefore given very fully and simply. While not especially intended for deaf persons, they and their teachers will find much in it that is valuable in their labor of acquiring and imparting speech.

In the preface the venerable author pathetically remarks that he cannot hope to see this edition exhausted like its predecessors. "In one's eighty-first year the retrospect is so long that the prospective outlook must be relatively very short." But his retrospect is a cheerful one, and he has the happy prospect that his excellent work will live after him and that through his books and his disciples he will continue to teach the world.

IVES, MARY ISAPHENE, and HOLLOWAY, CHARLOTTE MOLYNEUX. The Ives First Book. New York: William Beverly Harrison, 1900. 12mo, pp. 32.

This little book is intended for the use of hearing children learning to read, and its object is to produce clear and accurate

utterance. The peculiarity of the method consists in the presentation to the child of photographs of the visible vocal organs taken while in the act of uttering the sounds taught. The photographs given in the book are pictures of children who have been trained by one of the authors until they have thoroughly mastered the sounds, and were then photographed while uttering them. Probably articulation teachers of the deaf will find the illustrations of some benefit in the elementary stages of their work, in helping beginners to associate the proper positions of the vocal organs with the corresponding letters of the alphabet in their printed and written forms.

SAINT-HILAIRE, ETIENNE. Surdi-Mutité: Etude Médicale. [Deaf-Mutism: a Medical Study.] Paris: Maloine, 1900. 8vo, pp. 355.

Dr. Saint-Hilaire is aurist-physician of the Institution for the Deaf of the Department of the Seine, at Asnières, Paris, and this work is largely the result of his own observations upon the 178 pupils of that school. The author has, however, made a thorough study also of the works of other writers on the subject, and gives due weight to their conclusions where they differ from his own.

The author defines the deaf-mute as "a person in whom pathological alterations of the organs of hearing, congenital or acquired before the age of eight years, have resulted in a complete loss or considerable diminution of the faculty of hearing." He studies the etiology, pathogeny, pathological anatomy, symptomatology, diagnostic, prognostic, prophylaxis, and treatment of deaf-mutism, gives statistics collected by himself and compiled from others, and discusses the questions of heredity and consanguinity. He concludes that, contrary to the general opinion, deaf-mutism tends to diminish rather than increase in France.

More definitely than most authorities, Dr. Saint-Hilaire regards deaf-mutism as a form of degeneracy. Probably the pupils of the Asnières Institution, who come chiefly from the

poorer classes of Paris, and in whose parents and relatives are found many instances of epilepsy, imbecility, insanity, alcoholism, hysteria, chorea, scrofula, syphilis, tuberculosis, etc., furnish an unusual proportion of cases of the degenerate type; it seems to us a serious error to consider deaf-mutism in general as a form of degeneracy.

The various diseases and accidents that cause deafness, as cerebro-spinal meningitis, scarlet fever, typhoid fever, falls, blows, etc., receive proper consideration, and the pathological anatomy of deafness is fully treated. A tabular statement gives 153 autopsies of deaf-mutes, taken from the works of Mygind, Uchermann, and others.

The author accepts Dr. Bezold's classification of degrees of deafness, and favors the auricular exercises advocated by him, but does not go as far in this direction as Dr. Urbantschitsch and others, and does not regard with approval the various instruments that are offered to the public as aids to hearing.

A biographical index, naming 670 works relating more or less closely to the subject of deaf-mutism, adds to the value of the work.

REPORTS OF SCHOOLS, 1900. Berlin (Prussia) City School, California, Columbia, Genoa (Italy), Georgia, Groningen (Netherlands), Montana, Pennsylvania Home for Training in Speech, Sarah Fuller Home for Little Children, Venersborg (Sweden).

REPORT of the College of Teachers (London, England), 1900.

E. A. F.

FORCHHAMMER, G. Exposé des Principes de l'Articulation, écrit pour le Congrès International des Sourds-Muets à Paris, 1900. [Exposition of the Principles of Articulation, written for the International Congress of Deaf-Mutes at Paris, 1900.] Copenhagen: Imprimerie Thiele, 1900. 8vo, pp. 37.

The most interesting part of Mr. Forchhammer's Exposition is the description of Jespersen's phonetic formulas and of

a new system of international phonetic writing invented by the author himself and based upon that of Jespersen. The following synopsis, translated in large part from Mr. Forchhammer's treatise, will give an idea of his system:

The greatest merit of Professor Alexander Melville Bell, according to the author, is having made a distinction between the positions of the different organs. Jespersen carries this distinction farther by abandoning the alphabetical principle of "a sign for each sound," and by substituting for it the principle of "a sign for each position of each organ," a principle that has nothing to do with the alphabet.

Each organ is carefully separated from the others, and the positions of the organs are written upon horizontal lines one under another; the positions of the lips on one line, the positions of the tongue on another, and so on.

The system resembles (as Jespersen says himself) the way in which orchestral music is written upon the score of the leader with a series of lines for each instrument.

This simile shows at once the importance of the system. The teacher of the deaf is like the leader of the orchestra and must direct the lips, the tongue, the soft palate, the vocal cords, and the lungs of his pupils, so that the movement of these organs, although independent of each other, may, nevertheless, produce harmony. Mr. Forchhammer, therefore, considers Jespersen to be the one of all phoneticians who best meets the demands of articulation.

Jespersen has compared his formulas to those of chemistry (as has also Dr. Alexander Graham Bell those of "Visible Speech"). Just as water is composed of atoms of oxygen and hydrogen united, so each position of the mouth for the formation of a sound is composed of a position of the lips, of the tongue, of the soft palate, etc. Each position of an organ is an atom that composes articulation, and it is Jespersen's merit to have found a scientific method of representing these atoms. For details, see the description that Jespersen himself has given in English in "The Articulations of Speech Sounds" (Marburg, Ewert, 1889).

Jespersen's formulas are only for scientific purposes, and will interest the teacher of the deaf only from a scientific point

of view. But the ideas set forth by him throw a new light upon our work, and a simple description of the principle of writing without an alphabet will not be without importance.

Mr. Forchhammer illustrates the principle by writing the articulation of the [French] word "*combiné*," pronounced *K3bine* (*e* = *é*) (phonetic writing of Passy and Jespersen).

It seems useless to say that writing without an alphabet has nothing to do with teaching. It is only a means of showing the teacher what are the positions of the organs which he must prefer in his articulation in order to render it as simple and easy as possible.

This is the scheme for writing without an alphabet:

Phonetic symbol.	k	3	b	i	n	e
I. Lower jaw	. .	3	. .	1	. .	2
II. Opening of the lips	, ,	, ,	0	, ,	, ,	, ,
III. Rounding of the lips	. .	+	. .	÷	. .	÷
IV. Point of the tongue	, ,	, ,	, ,	, ,	0	, ,
V. Top of the tongue	0	, ,	, ,	, ,	, ,	, ,
VI. Back of the tongue	. .	÷	. .	+	. .	+
VII. Soft palate	0	1	0	0	1	0
VIII. Vocal cords	2	1	1	1	1	1

EXPLANATION OF THE SIGNS.

0 = closed position of the organs.

1, 2, 3 = different degrees of the open positions.

\+ = forward position.

÷ = position drawn back.

, , = mid or neutral position.

. . = intermediate positions which come of themselves.

e = é in French.

Mr. Forchhammer has also special signs for the positions of the open consonants (*v*—*f*, etc.), but in this treatise does not stop to explain what they are.

We will give a part of his description of the action of the organs:

I. *The lower jaw.*—He notes here the degree of opening of the vowels. This degree is (according to Professor Bell) determined by the distance between the tongue and the palate, but is obtained more easily (at any rate for articulation) by a proper lowering of the jaw.

Three principal positions are enough: 1, 2, 3. He notes them only for the vowels, as the consonants conform to the vowels as much as possible. * * *

III. *The rounding of the lips.*—The movement works horizontally forward and back. It is very important in the articulation of the deaf, as it divides the vowels into two principal groups: rounded (+) and not rounded (÷ or ,,). * * *

VI. *The back of the tongue.*—The movement of the back of the tongue is effected horizontally forward and back. This movement is one of the principal conditions of good articulation and must be carefully practiced.

There are two principal positions: The forward position (+), characterized by the surface of the tongue being swelled forward, is used for the front or palatal vowels (*è*, *é*, *i*). The difference of the degree of opening of these vowels is obtained by raising or lowering the jaw. The back position (÷) is used for *a*, *ɔ*, *o*. The difference of the degree of opening is likewise obtained by means of the jaw.

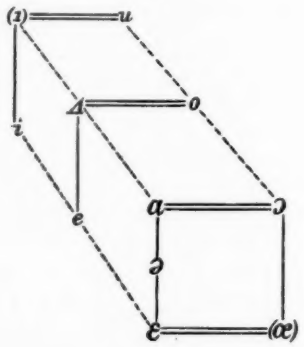
Between these two positions there exists a series of intermediate positions (,,), which we may neglect in the articulation of the deaf of most countries. But in English and Swedish and Russian the intermediate positions give such important vowels that we must not neglect them.

In the consonants the position of the back of the tongue is ordinarily free, and must conform to the vowels. In *ivi* the *v* must be pronounced in the forward position; in *ava* the same sound must be formed in the back position. The same difference exists even for the consonants *g* and *k*. This is a fact which must not be overlooked, and which is of capital importance for good articulation.

We pass over his table of French vowels, and proceed at once to his "Table of English Vowels."

	Back Vowels.						Intermediate.			Forward.		
International characters.	a	ʌ	(1)	ɔ	o	u	ə			ɛ	e *	i
English words.	half	cut		all	go	fool	bird			pear	men	feel
I. Lower jaw.....	3	2	1	3	2	1	3			3	2	1
III. Rounding of lips.....	÷	÷	÷	+	+	+	÷			÷	÷	÷
VI. Back of tongue	÷	÷	÷	÷	÷	÷	.,			+	+	+

The simplicity of articulating these vowels may be seen from the following "Geometric table":



(1) a sound found in Gaelic.
Movement of the jaw – – – – –
Movement of the lips ═══
Movement of the tongue ———

The English system differs from the continental system in several important points. For example there are no forward rounded vowels (corresponding to the French vowels *oe*, *eu*, *u*.) On the other hand there are more back and intermediate vowels

* It seems to us that the author has not given a correct example of the sound of the international character *e*, which in his other table he uses to represent the French *é* (as in *combiné*). The English sound best representing the French *é* is *ā* as in *āle* rather than *ĕ* in *men*.

than in the other languages. We cannot therefore neglect the intermediate position (, ,).

But English vowels have another peculiarity. Each vowel may be pronounced in two different ways, "narrow" or "wide." "Narrow" corresponds rather to the continental pronunciation. "Wide" is a modification of this, and although the position of the organ is not lowered, it has nevertheless a deeper tone.

Unfortunately the authorities on phonetics do not agree as to the cause of this difference. Bell, Sweet, and Jespersen give each a different explanation. It is, therefore, not without reason that Trautmann has attacked this weak point of the system of English vowels.

Mr. Forchhammer advises that the distinction between "narrow" and "wide" be disregarded until it is definitely settled. We do not agree with him, for the English language has these distinct sounds, and the deaf are capable of acquiring them more or less correctly. The failure to provide for noting this distinction seems to us a fault in the author's system.

Another fault is that, so far as we can see, he makes no provision for glide-vowels. It may be correct to omit the top-glide or y-glide, a nonsyllabic sound of *ē* in such words as *ale* and *favored* and to omit the lip-glide (a nonsyllabic sound of *ōō*) in such words as *go* and *code*; Professor Bell does that in his Visible Speech.* But we should like to know how Mr. Forchhammer would represent "I" in his table. Would he break it up into *ä—ēē*, describing the positions in two separate columns? This would be going too far in the other direction.

In the *Annals* for September last (page 413), Mr. Forchhammer is reported as having said in the Paris Congress that "English is the most difficult of European languages for speech-reading." He writes the editor of the *Annals* that, while he spoke of the peculiar difficulties of the English language in this respect, he did not go so far as to assert that it was the most difficult of all European languages. His more

* "*English Visible Speech in Twelve Lessons*," *Volta Bureau*, 1895, and "*Principles of Speech*," *Volta Bureau*, 1900.

qualified statement in the treatise before us is: "The shorter and more concise the words of a language, the fewer visible signs will they generally have, and the more difficult will it be to read them. English, for example, is the type of a short and concise language."

In closing, Mr. Forchhammer says that the difference between the sum of the various sounds of speech and the sum of the signs of those sounds which the deaf can distinguish in lip-reading is the cause of signs among the speaking deaf, and he concludes that the oral system will acquire a solid basis only when this difference is reduced by the use of writing as the basis of instruction.

SBROCCA, FEDERICO. Manuale di Pedagogia Speciale per l'educazione dei bambini sordo-muti od anormali. [Manual of Special Pedagogy for the education of deaf-mute or abnormal children]. Alessandria: Tipografia Chiari. 1900. 12mo, pp. 143.

The increasing interest which has been shown during the last few years in the education of the deaf has suggested to Mr. Sbrocca to compile a teacher's manual for the use of students in the state normal schools of Italy. His aim has been to give general information about the deaf, and an outline history of the art of instructing them. He has reduced the subject to a brief pamphlet of about eighty pages, not counting a chapter devoted to feeble-minded children. The chapters dealing with the connection between deafness and dumbness, the causes of deafness, and the psychological condition of deaf children, seem adequate. But we think that teachers would get many valuable ideas from a more detailed account of the growth of the methods of education.

Mr. Sbrocca is an oralist and hardly does justice to the combined system; he does not give sufficient data to enable readers to judge for themselves of the comparative merits of methods of instruction.

A valuable feature of the work is a bibliography of the most important Italian publications relating to the deaf and the feeble-minded.

ALLAN BRADSHAW FAY,
Instructor in Gallaudet College, Washington, D. C.

SCHOOL ITEMS.

Alabama School.—By an act of the legislature approved November 28, 1900, the name of the establishment was changed from "Institute" to "School," the age of admission was fixed at from seven to twenty-one, the term of instruction was extended from eight to ten years, education was made absolutely free to all deaf children, and the number of the trustees was increased from nine to eleven. The board of trustees, with Mr. J. H. Johnson as chief executive officer, have also charge of the School for the Blind and the School for the Negro Deaf and Blind. Hitherto the State has paid more, per pupil, for the education of its negro deaf children than of its white deaf children. Now the three schools are placed on the uniform basis of $230 per annum for each pupil.

Arkansas Institute.—Mr. Charles P. Coker, supervisor of boys for a number of years, has been added to the corps of instructors; also Mr. Frank Riggle, for five years secretary and steward of the Institution.

Chefoo (China) School.—The school is erecting new buildings in a desirable part of the city overlooking the sea. It has a debt of $3,000 and needs $5,000 more for building purposes. It is entirely dependent upon the benevolent contributions of friends in Europe and America, which thus far have come chiefly from schools for the deaf. It is the only work of the kind in China, and with the restoration of peace it is expected that its opportunities will be greater than ever.

Chicago Day-Schools.—Miss Effie Johnston, late of the Illinois Institution, has been added to the corps of teachers. Mrs. Bellows is absent on leave, and her place is supplied by Miss Larry M. W. Alcorn.

Cincinnati Oral School.—The Board of Education granted the school last month seventy dollars' worth of maps and geographical charts, forty dollars' worth of supplementary readers, and some simple apparatus for physics. Among the charts are Yaggy's Geographical Portfolio, costing $40, and a large

half round map of the United States, showing, in addition to the surface of the land in relief, the elevations of the land at the bottom of the sea, the shelves along the Atlantic coast, etc.

Cleveland School.—The class taught at the Rockwell School for two months has been put back into the main school on Willson avenue. All the pupils in the school are now taught by the oral method except one who is forty years of age.

Ephpheta School.—Miss Matilda Boucher and Miss Mary Malone have been appointed teachers in the place of Miss A. M. Larkin and Miss M. A. Kennedy, resigned.

Evangelical Lutheran School.—Miss Christina Thompson has resigned her position as teacher; Mr. Bentrup now teaches the manual classes.

Georgia School.—The School was closed for thirty days, beginning November 8, on account of the prevalence of scarlet fever in the town and one case in the school.

Groningen Institution.—Mr. P. Roorda, Director of the school at Groningen, Netherlands, authorizes us to announce that on application to him a copy of the Annual Report of that school for 1900, containing among other things a supplement to the Catalogue of the Guyot Library, which was published separately in 1883, will be forwarded, free of charge, to any schools for the deaf or public institutions that may desire it.

Halifax Institution.—In May last Miss Mary Grant, who had been teaching in this Institution for nearly two years, died after three months' illness. She was a successful teacher, beloved by her pupils, and respected and highly esteemed by all who knew her.

Miss Annie Mackay, Mr. James Murphy, and Mr. J. A. Weaver, late of the Margate, England, School, have been added to the staff of instruction.

Horace Mann School.—In January, 1900, the teacher of sloyd, Mr. J. H. Trybom, resigned his position to accept the superintendency of manual training in the public schools of

Detroit. Miss Kate F. Hobart, one of the regular teachers of the school, was appointed in his place. She gives three hours to regular class-room work, and two hours every afternoon to manual training.

Miss Martha E. Melchert, an experienced teacher in kindergarten work, was added to the corps of teachers in January, 1900.

La Salle Day-School.—The day-school at La Salle, Illinois, begun in 1898 under the State law passed the previous year, has been discontinued.

Louisiana Institution.—Miss Ninetta Layton, of Jacksonville, Illinois, has been added to the corps of instructors.

Mackay Institution.—Mr. F. Wolferstan Thomas, President of the board of management, died last May. His suc cessor has not yet been appointed, but it is presumed it will be Mr. Robert Mackay, nephew of the late Mr. Joseph Mackay, the founder of the Institution.

Miss Geraldine Daly, one of the staff, resigned in June to be married. Miss Kate Baker, of Boston, Massachusetts, fills the vacancy caused by her resignation.

An engine, to take the place of the windmill, has been put in. It gives great satisfaction, as the Institution now has an unlimited supply of water.

Manchester (England) Schools.—Mr. William Nelson, formerly a teacher in these schools, and for the past three years Superintendent of the London Day-School Classes, has been appointed Head Master in the place of Mr. Walter T. Bessant, deceased.

Minnesota School.—The maximum term of instruction has been extended from ten to thirteen years.

Mississippi Institution.—Miss Jane Lee, of Maysville, Kentucky, has been added to the corps of oral instructors.

A bright deaf-blind pupil six years old, named Maud Scott, has been admitted from Calhoun county, and Miss Jane Watkins, of Jackson, Mississippi, has been appointed a special teacher for her.

Montana School.—Plans and specifications for a new wing and boiler-house have been made by the State architect, and a special appropriation of $40,000 for their erection will be asked for at the meeting of the legislature in January.

New York Institution.—Miss Ethel R. C. Caparn resigned at the close of the last school year to be married; Miss Annie Denny Ward resigned in September to go to Manila, to care for her father, an officer in the U. S. Regular Army, who had been wounded while in the discharge of his duty. The following appointments have been made: Malcolm C. Anderson, M. A., who had been principal of the High School at Hinsdale, New Hampshire; Miss Kate A. Currier (not a relative of the principal), a graduate of Boston University, who had been trained as an oral teacher by Miss Richards, of the Rhode Island School; Miss Helena P. Newman, B. A., who had for eight years taught in the Western New York Institution.

A fine alto-relievo bust of the late Isaac Lewis Peet, LL. D., was unveiled in the Chapel on the anniversary of his birth, December 4.

North Carolina (Morganton) School.—Miss Carrie Nimocks has been added to the corps of teachers in the Manual Department. A Cooking Department for the girls has been introduced, and Miss Sallie Hart has been put in charge of it.

Ohio Institution.—Besides the weekly *Chronicle*, a small monthly paper called *The Literary Tyro*, is now published at the Institution. It is edited and managed under the direction of a board of editors, selected from the literary societies. Its objects are to encourage the reading habit among the members of the societies, and to give practice and encouragement in literary work.

Rhode Island Institute.—Miss Katharine MacCrosson has resigned her position to be married, and Miss Edith Hillman, who was in the Institute for a year as student-teacher, fills the vacancy. Miss Lizzie Green, from the Pennsylvania Home for the Training in Speech of Deaf Children, takes the place of Miss Peet, and Miss Mabel I. Clark takes the place of Miss Guinness. Miss Ethel A. Dunn has been appointed teacher of drawing.

St. John's Catholic Institute.—The Institute has two additional teachers and now does more than formerly in the way of articulation teaching.

A fine building has been erected for workshops, an addition has been made to the main building, and the Institute is now supplied with gas, bath-rooms, and other improvements.

South Carolina Institution.—Mrs. Ida M. Thomason, Miss M. C. Mauzy, and Miss H. Ruth Griswold have been elected to vacancies caused by the resignation of Mr. W. Laurens Walker, Miss Mozelle Beard, and Miss Harriet Avery. Mr. H. C. Swink, of Indiana, has been appointed foreman of the wood-working shop.

A three-story brick building is in process of erection for the department for colored pupils.

Western Oklahoma School.—This school has been discontinued, and Mr. Long is now engaged in the instruction of a private pupil in Byron, Oklahoma.

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A graduate of Gallaudet College desires a position as teacher, girls' supervisor, or assistant matron. Highest recommendations. Apply to the Editor of the *Annals*, Kendall Green, Washington, D. C.

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Copies of Dr. Harvey P. Peet's advice to parents of young deaf children, entitled "The Family Instruction of the Deaf in Early Childhood," reprinted from the Twenty-seventh Report of the New York Institution, may be obtained from the Editor of the *Annals*, Kendall Green, Washington, D. C., at ten cents each, postage included.

Mr. James Denison's "Manual Alphabet as a Part of the Public-School Course," published in the *Annals* for October, 1886, has been reprinted

in pamphlet form, accompanied by the beautiful manual alphabet drawn and engraved from photographs under the direction of Dr. J. C. GORDON. Copies may be obtained from the Editor of the *Annals*, Kendall Green, Washington, D. C., at ten cents each, postage included.

Mr. J. HEIDSIEK'S "Hearing Deaf-Mutes. A contribution toward the Elucidation of the Question of Methods," translated from the German by George W. Veditz, M. A., and published in the *Annals* for April, June, and September, 1898, has been reprinted in pamphlet form. Copies may be obtained from the Editor of the *Annals*, Kendall Green, Washington, D. C., at 25 cents each, postage included.

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The AMERICAN ANNALS OF THE DEAF will hereafter be published bi-monthly during the school year, appearing in the months of January, March, May, September, and November. The subscription price is $2.00 a year, payable in advance. For Great Britain and Ireland the price, postage included, is 8s. 6d.; for Germany, 8½ marks; for France, 11 francs, all which may be sent through the postal money-order office. Subscriptions and all other communications relating to the *Annals* should be addressed to the Editor,

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WASHINGTON, D. C.